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March 12, 1990

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REGIONAL HYDROGEOLOGIC ASSESSMENT REPORT
TASK 15

VOLUME ONE

TEXT, TABLES, ILLUSTRATIONS

HARGIS+ASSOCIATES, INC.

HARGIS + ASSOCIATES, INC.

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March 9, 1990

VIA FEDERAL EXPRESS

Ms. Johanna Miller
EPA Project Coordinator (T-4-2)
ENVIRONMENTAL PROTECTION AGENCY, REGION IX
580 Chetwood Street
Oakland, CA 94610

Re: Draft Regional Hydrogeologic Assessment Report and Draft Groundwater Sampling Plan, Regional Wells, Technical Memorandum, Task 15

Dear Ms. Miller:

Hargis and Associates, Inc. (H+A) has prepared the Draft Regional Hydrogeologic Assessment Report and the Draft Groundwater Sampling Plan, Regional Wells, Montrose Site, Technical Memorandum on behalf of Montrose Chemical Corporation. The draft report and draft technical memorandum are being provided in accordance with the Task 15, Subtasks 4 and 5 of Appendix C in the Second Amendment to the Aministrative Order on Consent, U.S. Environmental Protection Agency Docket No. 85-04.

The enclosed draft Regional Hydrogeologic Assessment Report presents data regarding the hydrogeologic environment in the vicinity of the Montose property, identifies wells located in the vicinity of the property, and identifies known and potential sources of groundwater contamination in the vicinity of the Montrose property. The report is submitted in two volumes. The first volume contains the report text, tables, and illustrations. The second volume contains the report appendices.

The draft Groundwater Sampling Plan is also enclosed. The draft Groundwater Sampling Plan presents a list of proposed wells to be sampled, a rationale for their selection, and the proposed sampling procedures.

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We look forward to receiving any comments you may have regarding these documents. Please contact us if you have any questions.

Sincerely,

HARGIS + ASSOCIATES, INC.

J.D. Mohrbacher, P.E.
Project Manager

Sarah L. Raker
RI Task Manager

SLR:kag

Enclosure

cc: See attached

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ACRONYMS AND ABBREVIATIONS

B+E	BOOKMAN-EDMONSTON ENGINEERING, INC.
CERCLIS	COMPREHENSIVE ENVIRONMENTAL RESOURCE CONSERVATION LIABILITY INFORMATION SERVICE
CDWR	STATE OF CALIFORNIA, DEPARTMENT OF WATER RESOURCES
COASTAL PLAIN	LOS ANGELES COASTAL PLAIN
DDT	DICHLORO-DIPHENYL-TRICHLOROETHANE
DHS	STATE OF CALIFORNIA, DEPARTMENT OF HEALTH SERVICES
EAA	ENVIRONMENTAL AFFAIRS AGENCY
E&E	ECOLOGY & ENVIRONMENT, INC.
EPA	U. S. ENVIRONMENTAL PROTECTION AGENCY
H+A	HARGIS + ASSOCIATES, INC.
HWIS	HAZARDOUS WASTE INFORMATION SYSTEM
JUDGMENT	WEST COAST BASIN JUDGMENT
LACDPW	LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
LACFCD	LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
LADHS	LOS ANGELES COUNTY DEPARTMENT OF HEALTH SERVICES
M&E	METCALF & EDDY
mg/l	MILLIGRAMS PER LITER
MONTROSE	MONTROSE CHEMICAL CORPORATION
RI	REMEDIAL INVESTIGATION
RWQCB	STATE OF CALIFORNIA, REGIONAL WATER QUALITY CONTROL BOARD
SARA	SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT
SBS	SOUTH BAY SITES

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TDS	TOTAL DISSOLVED SOLID
TRI	TOXIC RELEASE INVENTORY
USGS	U.S. GEOLOGICAL SURVEY

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REGIONAL HYDROGEOLOGIC ASSESSMENT REPORT

TASK 15

1.0 INTRODUCTION

This draft report has been prepared on behalf of Montrose Chemical Corporation (Montrose) as part of the Remedial Investigation (RI). This report is being provided in accordance with the Task 15, Subtask 4 of Appendix C in the Second Amendment to the Administrative Order on Consent, U.S. Environmental Protection Agency (EPA) Docket No. 85-04.

1.1 PURPOSE AND SCOPE

The objectives of the regional hydrogeologic assessment are: (1) to obtain, compile, and analyze data regarding the hydrogeologic environment in the vicinity of the Montrose property, and (2) to identify known and potential sources of groundwater contamination in the vicinity of the Montrose property.

Regional hydrogeologic reports were obtained to characterize the geologic setting and hydrogeologic conditions. These reports include hydrogeologic investigations conducted by the United States Geologic Survey (USGS), and the State of California, Department of Water Resources (CDWR). Information was obtained on existing and former production wells, monitor wells, and observation wells located within a 2-mile radius of the Montrose property. These wells were inventoried and categorized by type and use. In Los Angeles County, well information is available from two sources: Los Angeles County Department of Public Works (LACDPW), Hydraulics Division, formerly the Los Angeles County Flood Control District (LACFCD), and the CDWR, Southern District.

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An alternate source investigation was conducted to identify potential sources of groundwater contamination within a 1-mile radius of the Montrose property. This investigation included evaluation of information generated from federal, state, and local agencies. Records were kept of all communications including telephone conversations. These records are available in the Montrose project file and are summarized in Section 9.0, References for Telecommunications.

Selected wells within a 1-mile radius of the Montrose property are proposed to be sampled. The analytical results and water level data obtained from these selected wells will be analyzed to determine the distribution of chemical compounds in groundwater as part of the RI. The wells selected are identified and presented in the accompanying technical memorandum. The methods for obtaining water levels and groundwater samples are also described in the accompanying technical memorandum.

In the process of compiling resources for this report, a file was obtained from Metcalf & Eddy, Inc. (M&E). This file contained notebooks and correspondence that M&E compiled for a regional hydrogeologic study for the Montrose site. M&E began their study under the direction of the EPA. The EPA provided the M&E file to H+A. The documents and notes prepared by M&E were reviewed and have been incorporated into this report. The M&E file is available in the Montrose project file.

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1.2 BACKGROUND

The Montrose property is located in the City of Los Angeles near Torrance, California and occupies approximately 13 acres (Figure 1). The property is bounded by a Southern Pacific Railroad right-of-way and Normandie Avenue to the east; Jones Chemical Company and Los Angeles Department of Water and Power (LADWP) right-of-way to the south; and the McDonnell Douglas Corporation to the north and west. The Farmer Brothers Coffee Company facility is located south

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of the LADWP right-of-way. The area surrounding Montrose property is zoned for residential, commercial, and industrial uses.

Between 1947 and 1982, Montrose operated a dichloro-diphenyl-trichloroethane (DDT) manufacturing plant. Although the use of DDT was banned in the United States in 1972, its use was not banned in other countries. Montrose continued to manufacture and export DDT until 1982, when the facility was closed. The facility was dismantled and demolished in 1982 and 1983. The property was graded into two raised building pads and then capped with asphalt in 1985. The building pads were designed for a proposed warehouse facility. The asphalt cap was constructed to prevent surface water infiltration, prevent release of airborne particulates, and limit contact with potential receptors.

The nature and extent of groundwater contamination at the Montrose site is being evaluated in the RI. Target chemicals are being monitored in four hydrogeologic units. Target chemicals were specified by EPA as a result of a preliminary soil and groundwater investigation conducted on the Montrose property (Metcalf & Eddy, 1985). Target chemicals refer to chemicals to be analyzed during the RI and include total DDT (all isomers, and metabolites DDD, and DDE), total BHC (all isomers), chlorobenzene, dichlorobenzene, benzene, chloroform, and acetone. Based on analytical results of groundwater samples collected from Montrose project monitor wells, target chemicals have been detected on the property and about 3/4 mile downgradient from the property. The focus of the RI is to characterize the nature and extent of contamination due to the former activities at the DDT manufacturing facility. The data collected during the course of the RI suggests that other sources of groundwater contamination may have existed on nearby properties.

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Palos Verdes not part of NIFT

2.0 PHYSIOGRAPHY

The Montrose property is located on the Torrance Plain within the West Coast Basin, a portion of the Los Angeles Coastal Plain (Coastal Plain) (State of California, Department of Water Resources, 1961). The physiographic features of the West Coast Basin are the Torrance and Long Beach Plains, the El Segundo Sand Hills, the Dominguez and Alamitos Gaps, and portions of the Baldwin Hills, Rosecrans Hills, Dominguez Hill, Signal Hill, and the Palos Verdes Hills (Figure 2). These elevated areas are collectively referred to as the Newport-Inglewood belt of hills or the Newport-Inglewood Uplift (State of California, Department of Water Resources, 1961).

The Torrance Plain is an older marine plain that parallels the Newport-Inglewood Uplift from Ballona Gap southwestward to Dominguez Gap. This broad, featureless plain is only slightly dissected by local streams in the north by Centinela Creek and in the south by Dominguez Creek. The Torrance Plain is poorly drained, is flanked by eroded highland areas to the east and south, and is underlain by water-bearing deposits of Pleistocene age.

The El Segundo Sand Hills extend from Ballona Gap south to Torrance and the Palos Verdes Hills about 3 miles inland from the Pacific Ocean (Figure 2). The Sand Hills consist of a wide belt of inactive Pleistocene dunes containing many closed depressions overlain by a narrow strip of active dunes along the coast.

The Newport-Inglewood uplift is a long structural feature extending from the foot of the Santa Monica Mountains near Beverly Hills southeastward to Newport Beach (Figure 2). This belt of hills is 1 to 4 miles wide and underlain by a series of folds and faults. The Rosecrans Hills and Dominguez Hill are the area within this structural deformation that may influence groundwater flow in the vicinity of the study area. These hills are underlain by upper Pleistocene sediments that dip to the southwest and merge with the Torrance Plain.

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3.0 SURFACE WATER FEATURES

The Coastal Plain of Los Angeles County is drained primarily by the Los Angeles and the Rio Hondo-San Gabriel River systems (State of California, Department of Water Resources, 1961). Historically, these river systems have meandered across the Coastal Plain and have entered the ocean at various locations from the Dominguez Gap to the north, to the Santa Ana Gap near Huntington Beach to the south. Streams within the Coastal Plain typically have flowed intermittently and have carried large flows only after winter storms.

Within the Coastal Plain, the Los Angeles River is the largest stream and has significantly affected the drainage of the plain (Poland, et al, 1959). Throughout history the Los Angeles River has radically changed course as a result of episodic flooding. For some undetermined time before 1825, the Los Angeles River flowed westward through Ballona Gap. During floods of 1825 the river breached its banks and began flowing through Dominguez Gap. Subsequent flooding caused the river to partially return to Ballona Gap, but since 1884 the river has flowed southward through Dominguez Gap into San Pedro Bay. These relatively rapid course changes suggest that the rivers of the Coastal Plain have left their debris over most of the plain and have been a factor in the formation of the Coastal Plain (Poland et al., 1959).

The Torrance Plain was drained primarily by the Dominguez Creek (Poland, et al, 1959). The Dominguez Creek drained an area called the Dominguez Slough located to the east of the City of Torrance. This area was a topographic low fed by intermittent streams and, at the turn of the century, contained a significant body of water over an area of about 2-square miles. The slough included surrounding marshy areas and drained to the southeast into San Pedro Bay via the Dominguez Creek. By 1930, the creek was channelized from the slough to the bay and renamed the Dominguez Channel.

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By 1947, the Dominguez Channel drained the Dominguez Slough and the remaining marshy area was named Laguna Dominguez (Figure 3). Due to the continuing industrialization of the area, the Dominguez Channel was extended to drain Laguna Dominguez. Channelization and modification of the Dominguez Channel was completed in 1964 (Figure 4).

The Dominguez Channel existing today was completed in the 1970s to help in flood control and drainage of the Torrance Plain (Figure 5). The upper reaches of the Dominguez Channel have concrete revetments and bottom. North of the confluence of the Torrance Lateral, the channel changes configuration to stone revetments and a clay-lined bottom. Laterals, such as the Torrance Lateral, were constructed to help drain adjacent low-lying areas into the channel. Presently, standing surface water exists throughout the length of the clay-lined portions of the Dominguez Channel and water levels are affected by tides.

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4.0 GEOLOGY

The Los Angeles Basin is a broad synclinal depression comprised of a thick sequence of marine and continental sediments. In the structurally deepest part of the basin beneath the central part of the Downey plain, the rocks of Tertiary and Quaternary age are more than 20,000 feet thick (Poland et al., 1959). To the north at the Santa Monica mountains and to the southwest at the Palos Verdes Hills, these rocks have been extensively elevated, folded, faulted, and eroded to expose the underlying complex of igneous and metamorphic rocks (Figure 2).

The Newport-Inglewood uplift, a composite faulted anticlinal belt, transects the Los Angeles Basin and extends from Beverly Hills to Newport Beach. The surface expression of the uplift is a series of echelon faults and anticlinal folds and domes that underlie the Beverly, Baldwin, Rosecrans, Dominguez, Signal, Bixby Ranch, and Landing Hills (Figures 2 and 6). This anticlinal belt creates two synclinal troughs: the Central Ground Water Basin, a broad syncline to the northeast, and the West Coast Basin, a relatively narrow syncline to the southwest (Figure 6).

The Montrose property is located within the West Coast Basin in the Torrance Plain. The basin is bounded on the north by the Ballona Escarpment, on the east by the Newport-Inglewood uplift, on the southwest by the Palos Verdes Hills, and on the west by the Pacific Ocean (Figures 2 and 6). There are three major structural features in the vicinity of the site within the Torrance Plain. These features include the Charnock Fault, the Torrance Anticline, and the Gardena Syncline.

The stratigraphy of the West Coast Basin includes Quaternary age continental deposits and Tertiary age marine sediments overlying a basement complex of igneous and metamorphic rocks. These sediments have been designated, from oldest to youngest, the Pico Formation, the San Pedro Formation, the Lakewood Formation, Older Dune Sand, Alluvium, and Active Dune Sand (Figure 7).

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Tertiary rocks in the West Coast Basin underlie the Pleistocene deposits and include the Pliocene Pico and Repetto formations and the Miocene Puente and Monterey Shale formations. These formations are almost entirely of marine origin and consist of sandstone, siltstone, mudstone, diatomite, and siliceous shale (Figure 7).

The lower Pleistocene age San Pedro Formation unconformably overlies the Pico Formation (Figure 7). The San Pedro Formation consists of unconsolidated to semi-consolidated gravel, sand, silt, and clay. These sediments are marine and continental in origin and attain a maximum thickness of approximately 1,000 feet.

The upper Pleistocene age Lakewood Formation unconformably overlies the San Pedro Formation (Figure 7). Marine and continental sediments comprise the Lakewood Formation and consist of gravel, sand, sandy silt, silt, and clay; these sediments attain a maximum thickness of greater than 400 feet. The Recent age deposits lie conformably on the Lakewood Formation and are comprised of alluvium and active dune sand that are typically present at surface outcrops throughout the basin (Poland, et al., 1959).

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5.0 HYDROGEOLOGY

West Coast Basin regional and local hydrogeology is presented in the following section. The regional hydrogeology section outlines the hydrostratigraphic units, groundwater occurrence, public water supply, and water quality of the West Coast Basin. The local hydrogeology section describes the hydrogeology and groundwater occurrence in the vicinity of the Montrose property based on results of the RI.

5.1 REGIONAL HYDROGEOLOGY

The Montrose property is located in the groundwater basin known as the West Coast Basin. The West Coast Basin is located immediately west of the Newport-Inglewood uplift. Pleistocene and older formations have been downwarped forming the West Coast Basin. The West Coast Basin is bounded on the north by the Ballona Escarpment, on the east by the Newport-Inglewood uplift, on the southwest by the Palos Verdes Hills, and on the west by the Pacific Ocean (Figure 2). Groundwater in the West Coast Basin occurs in multiple aquifers of varying water quality and usage. These aquifers are the Gardena aquifer, the Gage aquifer, the Lynwood aquifer, and the Silverado aquifer.

Regionally, the aquifers are primarily replenished with freshwater injected at two saltwater intrusion barrier projects. The only significant source of natural replenishment comes from the Central Basin across the Newport-Inglewood uplift. Water levels and flow directions within the basin are primarily controlled by the injection barrier projects and pumpage. Because of excessive pumpage in the early party of this century, water levels have been below sea level since the 1920's. In the West Coast Basin, the base of the freshwater occurs at approximately 1,300 feet below sea level.

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5.1.1 Hydrostratigraphic Units

Over much of the basin, the first groundwater is encountered within the Bellflower aquitard, previously known as the Bellflower aquiclude or the semiperched aquifer. The Bellflower aquitard is a predominantly fine-grained unit that overlies and partially confines the Gage aquifer. The Bellflower aquitard varies in lithology and regionally ranges from interbedded fine to medium sand, silty sand, and silt to sandy or gravelly clay. The aquitard has been reported to be absent in portions of the West Coast Basin including the area between the City of Torrance and the coast and the Baldwin Hills (State of California, Department of Water Resources, 1961). This was recently confirmed by EPA's contractor, Ecology & Environment (E&E), during the drilling of deep monitor well DA-2A near downtown Torrance (Ecology & Environment, Inc., 1989). The fine-grained nature of the unit tends to retard the downward migration of groundwater. Groundwater in the aquitard is generally of poor quality due to high total dissolved solids. The aquitard is not a source of water supply.

The Gardena aquifer extends eastward from Redondo Beach to the Newport-Inglewood uplift north of the Montrose property (Figure 8). The Gardena aquifer forms a narrow band of coarse-grained sediment that is stratigraphically equivalent to the Gage aquifer. The Gardena aquifer was deposited by an ancestral stream during a sea level rise. The unit is comprised of sand and gravel with minor lenses of sandy silt. Unlike the Gage aquifer this aquifer is considered useable for water supply. Wells completed in the Gardena aquifer have large yields, and many wells about 3 miles north of the Montrose property near the City of Gardena produce from this aquifer (State of California, Department of Water Resources, 1961).

The Gage aquifer occurs throughout most of the West Coast Basin except for the Long Beach Plain (Figure 2). The Gage aquifer is confined from above by the Bellflower aquitard except where the Bellflower aquitard is absent (State of California, Department of Water Resources, 1961). A clayey aquitard of variable thickness has been encountered between the Gage aquifer and the underlying Lynwood aquifer. The Gage aquifer merges with underlying aquifers

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2 to 3 miles inland along Santa Monica Bay (Figure 8). E&E reports that the aquitard was not encountered between the Gage and Lynwood aquifers during drilling of EPA monitor well DA-2A near downtown Torrance (Ecology & Environment, 1989). The Gage aquifer is composed mostly of sand with minor gravel and interbeds of silt and clay. The aquifer is of secondary importance for groundwater supply since yields are low. Historically, wells screened in the Gage aquifer supplied water for irrigation and domestic purposes (State of California, Department of Water Resources, 1961).

The Lynwood aquifer occurs over most of the West Coast Basin and is confined throughout the West Coast Basin except where the Lynwood aquifer merges with the overlying Gage aquifer (Figure 8). The Lynwood aquifer is primarily composed of gravel and sands with minor amounts of silt and clay and has moderate yields. Some wells are perforated in the Lynwood aquifer but few actually produce water solely from the Lynwood aquifer (State of California, Department of Water Resources, 1961). Most wells screened in the Lynwood aquifer are also screened in the Silverado aquifer.

The Silverado aquifer is continuous throughout the basin except where it is merged with the Lynwood aquifer (Figure 8). The Silverado aquifer is merged with the Lynwood aquifer along the coast from Ballona Gap to Redondo Beach from two to three miles inland. The Silverado aquifer also merges with the Lynwood aquifer along the Newport-Inglewood uplift and along the Palos Verdes Hills. The Silverado aquifer consists of fine to coarse blue-grey sands and gravels with discontinuous layers of silt and clay. These deposits reach a maximum thickness of 500 feet. Wells completed in the Silverado aquifer have high yields and for this reason the Silverado aquifer is the major source of groundwater in the West Coast Basin (State of California, Department of Water Resources, 1961).

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5.1.2 Groundwater Occurrence

The Newport-Inglewood uplift serves as a partial barrier to groundwater flow from the Central Basin to the West Coast Basin. In general, folding and faulting can produce changes in lithology and permeability that inhibit groundwater flow (State of California, Department of Water Resources, 1961). Groundwater flow across the Newport-Inglewood uplift is also controlled by the difference in water levels between the Central Basin and the West Coast Basin. These water levels are artificially influenced due to extractions, outflow, and replenishment in both basins. However, natural replenishment is minor compared to artificial replenishment from the injection barrier projects.

The majority of actual recharge to the West Coast Basin aquifers occurs at the West Coast Barrier Project and the Dominguez Gap Barrier Project (Figure 9). Freshwater is injected to form a barrier that protects basin groundwater from saltwater intrusion. The injection barrier forms a freshwater pressure ridge along a line of injection wells that parallel the coastline. A slight seaward flow of groundwater is maintained between the barrier and the ocean that prevents intrusion of seawater (State of California, Department of Water Resources, 1989) (Figure 9). The majority of the injected water flows from the barrier toward the interior of the basin.

Water level elevations in the vicinity of the injection barriers typically range from 5 feet to 10 feet above mean sea level. Water level elevations decrease inland reaching elevations of minus 50 feet to minus 70 feet below mean sea level in the vicinity of pumping centers (Bookman-Edmonston Engineering, Inc., 1989b) (Figure 10).

The direction of groundwater flow within the West Coast Basin is controlled by the injection barriers and pumping centers. The predominant flow direction is to the east from the West Coast Basin Barrier Project to pumping centers located in Torrance, Wilmington, and Gardena (Figure 11). At the south end of the Basin, groundwater flows northward to the pumping center at Wilmington.

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The majority of the groundwater pumped from the West Coast Basin is extracted from the lower aquifers (Figure 11). The pressure in these aquifers tends to be lower than in the overlying aquifers, due to pumping. Thirty-foot downward vertical gradients have been measured between the Gage and Silverado aquifers (State of California, Department of Water Resources, 1961).

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5.1.3 Public Water Supply

West Coast Basin groundwater resources were developed in the early 1900's due to the absence of adequate surface water supplies (State of California, Department of Water Resources, 1989). During the 1920's the demand for water was greater than natural replenishment, and groundwater levels began to drop. By 1932 groundwater levels had dropped below sea level and coastal wells became saline due to the seawater intrusion. The seawater front advanced landward and many wells were abandoned. In 1945 the California Water Service Company, the City of Torrance, and the Palos Verdes Water Company filed suit in Superior Court, Los Angeles County to establish adjudication of water rights in the basin.

In 1946 the West Basin Water Association was formed in response to the suit and developed a water resources management plan that would:

1. Provide a supplemental supply for major water users;
2. Limit groundwater extractions; and
3. Create an exchange pool to provide pumping rights for users without access to supplemental water (State of California, Department of Water Resources, 1989).

The West Basin Municipal Water District was formed in 1947 to distribute water from the Colorado River which would provide supplemental supply to the basin (State of California, Department of Water Resources, 1989).

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Preliminary hearings demonstrated to the Court that more specific information was needed regarding the West Coast Basin. The Court asked CDWR to define the boundaries and the hydrogeologic characteristics of the West Coast Basin. After six years of analysis the magnitude of the problem was defined and in 1949, an amended complaint was filed with the Court that added 340 parties to the suit. This led to the filing of a Report of Referee in 1952 (State of California, Department of Water Resources, 1989).

An interim agreement was finally signed in 1955 that limited groundwater extractions. The Court appointed CDWR as Watermaster to administer the agreement and manage adjudicated rights. In 1961 after filing the Final Report of Referee the Court signed the West Coast Basin Judgment (Judgment) and retained CDWR as Watermaster. This Judgment has been amended several times since 1961. The last amendment revised the provisions for nonconsumptive cleanup operations.

As Watermaster, CDWR is responsible for adjudicating water rights within the West Coast Basin. Each groundwater extractor reports pumpage to the Watermaster every month. This allows the Watermaster to keep an updated tabulation indicating the amount of groundwater extracted and the remainder available in the account. The Watermaster maintains a schedule for calibration of water meters to ensure accurate measurements. The meters are calibrated by the Watermaster at least once every two years. The Judgment includes provisions to enable parties to exchange rights, obtain additional rights, or make changes to their account (State of California, Department of Water Resources, 1989).

Water rights must be acquired before a well can begin production; these rights can be purchased or leased from parties. Once the water rights are obtained a water meter is installed at the well and the owner is required to report extractions to the Watermaster.

The Watermaster reports groundwater extractions once each year in a publication entitled Watermaster Service in the West Coast Basin (State of California, Department of Water Resources, 1989). This publication includes a

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summary of monthly extractions for each party well and a summary of total extractions for each party. Party wells are wells owned by parties of the West Coast Basin. Well status is listed as either active or nonactive. Active wells are extracting or monitored, and nonactive wells are not in use (Figure 12).

Water use and water supply in the West Coast Basin have remained relatively constant since about 1966 to 1967 (State of California, Department of Water Resources, 1989). Groundwater extractions have also remained relatively stable, averaging 60,000 acre-feet annually since 1966 to 1967. Dependence on groundwater has been minimized due to importation of water from the Colorado River and the State Water Project. During 1988 to 1989 the West Coast Basin extracted 44,538 acre-feet of groundwater and imported 305,054 acre-feet. This figure includes imported barrier project water (State of California, Department of Water Resources, 1989).

Four major water service agencies surround the City of Torrance (Table 1; Figure 13). These agencies include: City of Torrance Municipal Water Department; Southern California Water Company; Dominguez Water Corporation and City of Los Angeles Department of Water and Power. In the vicinity of the Montrose property public supply wells are operated by the Torrance Municipal Water Department, the Dominguez Water Corporation, and the Southern California Water Company (Table 2; Figure 14).

Individual water producers in the West Coast Basin also maintain active wells in the vicinity of the Montrose property (Table 3; Figure 15). These individuals produce water for industrial, agricultural, and private uses.

Groundwater extractions during 1989 from public supply wells and individual producers in the vicinity of the Montrose property range from 0.00 acre feet to 4784.13 acre feet (Table 4). These wells are located upgradient west and north of the Montrose property. Dominguez Water Corporation Well No. 19 is located 2 miles southeast and reported no extractions for 1989. The pumping wells supply water for public supply, industrial, and domestic uses.

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5.1.4 Water Quality

The West Basin Water Association conducts monitoring programs for water supplied for domestic use to meet the requirements of the DHS. The DHS requirements are set forth in Title 22 of the California Administrative Code and Assembly Bill 1803 (Bookman-Edmonston Engineering, Inc., 1989a). Title 22 requires monitoring for general minerals, trace organic compounds, physical properties, and radioactivity in groundwater supplies. Assembly Bill 1803 requires monitoring of trace organic compounds in groundwater supplies.

LADPW, formerly LACFCD, and CDWR are responsible for monitoring water levels and groundwater quality in the West Coast Basin. Groundwater samples are collected annually from selected extraction wells and are routinely analyzed for total dissolved solids (TDS), general minerals, and physical properties. Results of the groundwater monitoring program are presented in the Central and West Basin Water Replenishment District's annual reports (Bookman-Edmonston Engineering, Inc., 1988 and 1989b).

Five active wells located upgradient from the Montrose property are routinely monitored for general water quality. These wells include LACDPW wells 763J, 764C, 792, 794C, and 831N. Perforated intervals for these wells range from 130 to 450 feet bls to 550 to 650 feet bls. Additional information regarding actively monitored wells in the vicinity of the property are discussed in Section 6.0 of the report.

Results of the groundwater monitoring program for the West Coast Basin water supply indicate good water quality in the major aquifers (Bookman-Edmonston Engineering, Inc., 1988). The TDS of groundwater monitored basinwide is variable and ranges from about 700 milligrams per liter (mg/l) in the southern portion to 200 mg/l in the southeastern portion of the basin. The general TDS of groundwater in the vicinity of the Montrose property ranges from about 300 to 400 mg/l (Bookman-Edmonston Engineering, Inc., 1988).

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To comply with the DHS Assembly Bill 1804, selected wells in the West Coast Basin were sampled for trace organic compounds (Bookman-Edmonston Engineering, Inc., 1989). Eleven wells were selected for sampling basinwide based on recommendations made by a group of interested water supply members of the West Coast Basin Water Association. Water purveyors in the vicinity of the Montrose property that participated in the basinwide sampling included the Dominguez Water Corporation, City of Torrance, and Southern California Water Company (Hargis + Associates, Inc., 1989a) (Table 1; Figure 13).

Four out of the six public water supply wells located in the vicinity of the Montrose property were sampled during this initial investigation in 1984. These four public supply wells included the Dominguez Water Corporation Well No. 19 and No. 33; Southern California Water Company Dalton No. 1; and City of Torrance Well No.6 (Table 2; Figure 14). These wells were selected due to their proximity to industrial areas and/or hazardous materials facilities (Hargis + Associates, Inc., 1989). City of Torrance Well Nos. 4 and 5 were not sampled because of their proximity to Dominguez Water Corporation Well No. 33 (Figure 14).

Groundwater samples collected in 1984 from the 11 extraction wells located within the West Coast Basin did not contain detectable quantities of trace organic constituents (Bookman-Edmonston Engineering, Inc., 1989). These wells have reportedly not been sampled again for trace organic compounds since 1984. According to Mr. Tom Salzano, Assistant General Manager of the Central and West Basin Water Replenishment District, groundwater monitoring for organic constituents in the West Coast Basin will resume in 1990.

Analytical results for samples collected from one of the four public water supply wells in the vicinity of the Montrose property were obtained from Mr. Salzano (Hargis + Associates, Inc., 1989) (Appendix A). According to Mr. Salzano, results from City of Torrance Well No. 6 are representative of the overall monitoring program conducted near the Montrose property (Hargis + Associates, Inc., 1989). Samples were collected from City of Torrance Well No. 6 on December 11, 1984. Samples were analyzed for trace organic

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compounds including volatile organic compounds, base/neutrals, and pesticides by J.M. Montgomery Laboratory (Appendix A). Trace organic compounds were not detected.

5.2 LOCAL HYDROGEOLOGY

Fifty-three monitor wells were installed during the Montrose RI (Figures 16 and 17; Appendix B). Data obtained during the RI from 1985 to 1989 has confirmed the existence of a multi-aquifer system beneath and downgradient of the Montrose property. This aquifer system is comprised of the Bellflower sand, the Gage aquifer, and the Lynwood aquifer. The deeper Silverado aquifer has not been characterized during this investigation (Figure 8). Locally, the Bellflower aquitard contains a significant sandy aquifer and has been subdivided into the upper Bellflower aquitard, the Bellflower sand, and the lower Bellflower aquitard (Figure 17).

Preliminary results from the recent RI indicate that subsurface hydrostratigraphy 0.75 mile downgradient from the Montrose property is similar to the conditions encountered near the property. Lithologic logs from the Montrose monitor wells verify the existence and continuity of the individual units as described below.

The upper Bellflower aquitard consists of interbedded fine-grained sand, clayey sand, silty sand, and silt. The lower contact of this unit was encountered at depths ranging from 100 to 120 feet bls (Figure 17). The saturated thickness of the upper Bellflower aquitard ranges from about 35 to 50 feet.

Groundwater in the upper Bellflower aquitard occurs under unconfined conditions. Depths to water in upper Bellflower aquitard monitor wells ranged from 60 to 70 feet bls in May 1989 (Hargis + Associates, Inc., 1989) (Table 5). The direction of groundwater flow in this unit is generally to the southeast.

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depths to upper Bellflower aquitard range 60-120 ft bls

The horizontal gradient in the upper Bellflower aquitard is on the order of about 0.001.

The Bellflower sand underlies the upper Bellflower aquitard and the contact is gradational. This unit consists of fine to medium grained sand, moderately well-rounded, containing few fines and is typically yellowish in color. The upper contact of the Bellflower sand was encountered at depths between approximately 100 and 110 feet bls. The lower contact of this unit was encountered at depths ranging between 110 to 130 feet bls (Figure 17). The Bellflower sand tends to become coarser with depth. The observed thickness of the Bellflower sand ranges from approximately 2 to 20 feet.

Groundwater in the Bellflower sand occurs under semiconfined conditions. Depths to water in Bellflower sand monitor wells range from 65 to 70 feet bls in May 1989 (Hargis + Associates, Inc., 1989) (Table 5). Locally, the direction of groundwater flow in this unit is to the east-southeast. The horizontal hydraulic gradient of the Bellflower sand is on the order of 0.0006.

The lower Bellflower aquitard separates the Bellflower sand from the Gage aquifer. This unit is comprised of two silty or clayey layers separated by approximately 5 feet of fine-grained sand and silty sand. The observed thickness of the lower Bellflower aquitard ranges from 5 to 19 feet.

The Gage aquifer underlies the lower Bellflower aquitard. This unit consists of very fine-grained sand with some occasional silty sand. The silt content generally increases with depth. Soil samples from the Gage aquifer are typically gray or bluish gray in color. The upper contact of the Gage aquifer was encountered at depths ranging between 140 and 155 feet bls. The lower contact of this unit was encountered at depths ranging between 195 and 210 feet bls (Figure 17). Near the site, the observed thickness of the Gage aquifer ranges from approximately 50 to 75 feet.

Groundwater in the Gage aquifer occurs under confined conditions. Depths to water in Gage aquifer monitor wells range from 60 to 70 feet bls in May 1989

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(Hargis + Associates, Inc., 1989) (Table 5). The direction of groundwater flow in this unit is presently to the east-southeast. The horizontal hydraulic gradient of the Gage aquifer is on the order of 0.001.

The Lynwood aquifer underlies the Gage aquifer and is typically separated from it by an unnamed clayey silt aquitard. The lithology of the Lynwood aquifer is quite variable both vertically and horizontally. Typically, the upper portion consists of a blue-gray, fine-to medium-grained sand underlain by a fine-grained unit comprised of clayey silt or sandy silt. A coarse-grained unit underlies the fine-grained unit and is comprised of interbedded gravelly sand, sand and silt, and clayey silt. The upper contact of the Lynwood aquifer was encountered at depths ranging between 220 and 235 feet bls. The lower contact of this unit is gradational and was encountered at depths ranging between approximately 270 and 330 feet bls (Figure 17). Based on exploratory borings drilled in the vicinity of the Montrose property, the aquifer grades from a sand to a silty sand to interbeds of sandy silt and silty sand. The thickness of the Lynwood aquifer ranges from approximately 30 to 105 feet.

Depth to water in Lynwood aquifer monitor wells is about 75 feet bls. The horizontal hydraulic gradient of the Lynwood aquifer is on the order of 0.001. Based on a head difference of about 10 feet, there is a downward vertical hydraulic gradient from the Gage aquifer to the Lynwood aquifer.

The Silverado aquifer underlies the Lynwood aquifer and is typically separated from the Lynwood aquifer by a clayey or well-cemented aquitard (State of California, Department of Water Resources, 1961). Lithologic data from LACDPW Well No. 795, located about 100 feet south of the Montrose property, were reviewed. Based on lithologic data for LACDPW Well No. 795, the upper contact of the Silverado occurs at a depth of 490 feet. The unit is composed of 0.5-1 inch diameter gravel with a blue clay layer at about 560 to 600 feet bls (Hargis + Associates, Inc., 1990).

The Silverado aquifer supplies the drinking water for most of the Torrance area (State of California, Department of Water Resources, 1961). The direction

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of groundwater flow in the Silverado aquifer has been reported to be to the east-northeast (State of California, Department of Water Resources, 1989). No monitor wells have been installed in the Silverado aquifer during the RI at the time this report was written. Water level data were obtained from LACDPW Well No. 795 and compared to water level data obtained for the Gage aquifer monitor wells located on the Montrose property. The data indicate a downward vertical gradient based on a head difference of about 30 feet between LACDPW Well No. 795 and Montrose Gage aquifer wells. This supports the premise that the lower aquifers in the West Coast Basin have lower pressures due to extensive pumping.

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6.0 WELL INVENTORY

The well inventory was compiled from data collected at LACDPW Hydraulics Division, and the CDWR. These two agencies share information and each agency has an identical set of microfiche that contain well information. H+A used LACDPW exclusively except where more information was needed. Monitor well data were collected from published reports that are described in Section 7.0 of this report.

LACDPW plots actively monitored wells on Thomas Brothers maps for use by the public. Actively monitored wells are those wells that LACDPW actively monitors as part of a basinwide monitoring program. This program includes wells that are periodically checked for water levels and wells that are periodically sampled for water quality analysis. LACDPW maintains USGS quadrangle maps that show locations of active, inactive, and abandoned wells. These USGS maps are used for the LACDPW well identification system. Inactive wells are on record but are not actively monitored by LACDPW. These inactive wells could include public supply wells, industrial wells, domestic wells, or abandoned wells.

Most wells are listed on microfiche records at LACDPW. These microfiche records typically include a well data sheet and a well log. For actively monitored wells, water level data and water quality data are also available. The microfiche records also contain historical water level data and water quality data of wells that are not actively monitored.

Well data were also collected from the CDWR publication Watermaster Service in the West Coast Basin Los Angeles County (State of California, Department of Water Resources, 1989). The Watermaster Service lists all wells within the West Coast Basin that are reporting groundwater extractions. These wells are listed by owner and well number. The Watermaster publication reports groundwater extractions for each month in acre-feet.

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6.1 SCOPE

Wells were inventoried within a 2-mile radius of the Montrose property with an emphasis on those wells located within a 1-mile radius of the property. The data search was limited after it became apparent that there are a large number of wells located upgradient and north of the Montrose property. It was determined that to inventory each individual well would not be expedient. Wells that are located outside the 1-mile radius and are downgradient were included in the well inventory because downgradient wells are of particular interest to the RI.

6.2 RESULTS

Actively monitored wells were identified within a 2-mile radius of the Montrose property using data collected from LACDPW (Table 6; Figure 18). Thirty actively monitored wells were inventoried within a 2-mile radius of the Montrose property. The majority of the actively monitored wells are located upgradient and to the north of the property. Seven wells are classified for industrial uses and 15 are classified for domestic uses. Four wells are LACDPW observation wells, three are for public supply wells, and one well is listed as abandoned (Table 6).

Public water supply wells were inventoried in the vicinity of the Montrose property (Table 2; Figure 14). Six wells were identified between 2 and 3 miles from the property. Dominguez Water Corporation No. 33, Southern California Water Company Dalton No. 1, and City of Torrance Well Nos. 4, 5, and 6 are located upgradient to the east and to the north of the property. Dominquez Water Corporation Well No. 19 is located 2 miles downgradient to the southeast but is not reporting extractions.

Groundwater extraction wells were inventoried in the vicinity of the Montrose property (Table 4). Extractions from these wells are adjudicated and the owners are required to report extractions to the Watermaster. The types of

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wells inventoried include public water supply, industrial, irrigation, and domestic wells.

Active and inactive wells, abandoned wells, monitor wells, and piezometers were inventoried within 1-mile radius of the property (Table 7; Figure 19). A total of 24 wells were inventoried within the 1-mile radius. Three industrial wells, LACDPW Well Nos. 794A, 794B, 794C, are located north of the Montrose property. An actively monitored well, LACDPW Well No. 795, is located just south of the property. LACDPW Observation Well No. 806C is located 1 mile south of the property.

Well logs and data sheets were obtained at LACDPW for the actively monitored wells. Data sheets include information about the well including owner, location, drilling contractor, water level, and construction details. Data sheets were obtained for all thirty actively monitored wells within 2-miles of the property. Well logs were obtained for 18 of the actively monitored wells. Many of the wells are old and the data sheets and logs are incomplete or illegible. Well logs and data sheets compiled for this study are available in the H+A Montrose project file.

Analytical results are compiled for the West Coast Basin by the West Basin Replenishment District (Bookman & Edmonston Engineering, Inc., 1988). These results are described by B&E in a basinwide report. The analytical results for each actively monitored well were not obtained.

Water level data were compiled for the West Coast Basin by LACDPW and CDWR (State of California, Department of Water Resources, 1989). These results are described by CDWR for the Watermaster service. Water levels for each actively monitored well were not obtained.

Monitor wells located in the vicinity of the Montrose property are reported in property investigations. A description of monitor wells within the 1-mile radius are outlined in Section 7.0 "Alternate Source Investigation".

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Selected wells within a 1-mile radius of the Montrose property are proposed to be sampled. The analytical results and water level data obtained from regional wells will be evaluated to determine the distribution of chemical compounds in groundwater as part of the RI. The wells selected for sampling are identified and presented in the accompanying technical memorandum. The methods for obtaining water levels and groundwater samples are also included in the accompanying technical memorandum.

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7.0 ALTERNATE SOURCE INVESTIGATION

The area around the Montrose property is presently industrialized with the majority of land zoned for a mixture of manufacturing and residential uses. Hydrocarbon and free product-related contamination is reportedly extensive, particularly in the vicinity of the oil refineries (U.S. Environmental Protection Agency, 1990). Leaking underground storage tanks and facilities generating hazardous waste exist in the vicinity of the Montrose property. In addition, analytical results of groundwater samples collected from the Montrose project monitor wells indicate that there may by other sources of groundwater contamination in the vicinity of the Montrose property.

The proximity of the Montrose property to several municipal jurisdictions added to the complexity of the alternate source investigation. The area that encompasses the 2-mile radius around the Montrose property covers portions of the cities of Carson, Gardena, Torrance, and Los Angeles, and the County of Los Angeles (Figure 20). The Montrose property is located on a strip of land in the City of Los Angeles. A narrow strip of land east of the property is located in the County of Los Angeles. The City of Carson is located further east of the property beyond the unincorporated Los Angeles County land. The City of Torrance is located west of the property and extends to Western Boulevard. The Gardena city limits are located about 1 mile north of the Montrose property.

7.1 SCOPE

The scope of the alternate source investigation consisted of contacting public agencies to obtain information on reported releases of hazardous substances, generators of hazardous waste, and permitted tanks in the vicinity of the Montrose property. The public agencies that provided pertinent information included the State of California, Regional Water Quality Control Board (RWQCB); State of California, Department of Health Services (DHS), Toxic Substance Control Division; State of California Environmental Affairs Agency

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(EAA); and the EPA. Information regarding the status of sites identified through these agencies was obtained from RWQCB, DHS, Los Angeles County Department of Health Services (LADHS), LACDPW, the City of Torrance Fire Department, and the City of Los Angeles Fire Department (Table 8). Records were kept of all communications including telephone conversations and correspondence and are summarized in Section 9.0 "References for Telecommunications".

Field inspections of publically accessible areas that were identified through this alternate source investigation were not deemed necessary. Public records obtained from the agencies were adequate to identify potential sources of groundwater contamination in the vicinity of the Montrose property.

7.2 PUBLIC RECORDS

The primary sources of data for this task were obtained from available public records. The following eight agency lists and documents were used to identify potential alternate sources of groundwater contamination:

- Underground Storage Tanks Leak List (UST Leak List) in Los Angeles County and Ventura County (State of California, Regional Water Quality Control Board, 1989);
- Hazardous Waste and/or Substances Sites List (State of California, Office of Planning and Research, 1989);
- Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) (U.S. Environmental Protection Agency, 1989);
- Toxic Release Inventory (TRI) Data Base, 1988 SARA 313 Emissions/Releases (State of California, Environmental Affairs Agency, [EAA], 1989);

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- Expenditure Plan for the Hazardous Substance Cleanup Bond Act of 1984 (State of California, Department of Health Services, 1987);
- Tanner Report generated from the Hazardous Waste Information System (HWIS)(State of California, Department of Health Services, 1989);
- Sites Having Known or Potential Ground Water Impacts, South Bay Sites Project (SBS) (U.S. Environmental Protection Agency, 1990);
- Underground storage tank permits.

The RWQCB UST Leak List summarizes the location and status of properties with reported releases to the environment. This list was formerly referred to as the Unauthorized Release List (URL). The URL specifies the site owner, address, date of release, the status of the site investigation, and the agency that maintains lead oversight at the site. In many cases, the lead agency for sites reported on the URL is the RWQCB. The URL is updated quarterly and is available from the RWQCB upon request. Sites identified within a 1- and 2-mile radius from the Montrose property on the URL list are designated by "URL" in Tables 9 and 10, respectively.

The DHS Hazardous Waste and Substances Sites List is prepared by the Office of Permit Assistance, within the Office of Planning and Research. Data are compiled from the State Water Resources Control Board, the California Waste Management Board, and the DHS. The list summarizes site owner, address, and the DHS designated category of the reported site. The site category that is relevant to this alternate source investigation is designated DHS5 on the list. The DHS list is updated continually, is distributed semiannually, and is available upon request. Sites identified within a 1- and 2-mile radius from the Montrose property on the DHS list are designated by "CA" in Tables 9 and 10, respectively.

CERCLIS is a data base used by EPA to track activities conducted under the EPA Superfund program. CERLCIS contains those potential hazardous waste sites

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that have been brought to EPA's attention. Listing of a site on CERCLIS does not necessarily mean it is contaminated. This list is updated annually and a printout of sites within a particular area is available upon request. Sites identified within a 1- and 2-mile radius from the Montrose property on CERCLIS are designated by "EPA" in Tables 9 and 10, respectively.

The TRI data base was prepared as part of the Superfund Amendments and Reauthorization Act (SARA) Community Right to Know Act of 1986. Under SARA Title III, Section 313, owners of facilities that handle hazardous waste are required to report the quantity of waste stored and known releases from the facility. The data base provides the estimated annual quantity of chemicals released to the air, water, land, and sewer treatment plants. The data base has been updated through 1989 and can be accessed by contacting the EAA. Hazardous waste generators within a 1-mile radius of the Montrose property were compiled (Appendix C). The chemicals generated by the facilities and the unaudited pounds reported at each facility. Sites identified within a 1- and 2-mile radius from the Montrose property on the TRI data base are designated by "EAA" in Tables 9 and 10, respectively.

The DHS was required by the California State legislature to develop a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. The expenditure plan contains a description of the DHS' plans for statewide hazardous waste site cleanup based on the most current data available. Data compiled for the alternate source investigation were obtained from the second revision to the plan made in 1987 (Appendix D). Sites located within a 1- and 2-mile radius from the Montrose property contained in the expenditure plan are designated by "CEP" in Tables 9 and 10, respectively.

State legislation was passed which required counties in California to prepare and submit hazardous waste management plans. The DHS Office of Program Monitoring generates lists containing specific generation and disposal data within each county. The HWIS data base is used to produce these lists referred to as Tanner Reports. Tanner Reports contain those businesses that may produce

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or handle hazardous materials, the total tons of waste generated, and the waste category (Table 11; Appendix E). Tanner report data were compiled instead of obtaining the list of businesses from the local Chamber of Commerces in the vicinity of Montrose.

In December 1989, federal, state, and local regulatory agency representatives met to discuss the status of potential and existing hazardous waste sites located in the South Bay of Los Angeles (U.S. Environmental Protection Agency, 1990). The status of DHS, RWQCB, and EPA lead sites in the Torrance area were summarized at this interagency meeting. Sites located within a 1 and 2-mile radius from the Montrose property summarized in the meeting notes from the South Bay Sites project are designated by "SBS" in Tables 9 and 10, respectively. In addition, the location and status of landfills operating in this study area were also summarized (Table 12).

Underground storage permits for sites within a 1-mile radius of the Montrose property are available from the LACDPW, City of Los Angeles Fire Department, and the City of Torrance Fire Department. The Montrose property is located in the City of Los Angeles and underground tank permits are maintained at the Los Angeles Fire Department. The Los Angeles Fire Department and the City of Torrance Fire Department are designated as the Administering Agency under California's hazardous waste law and the federal Community Right to Know requirements of SARA. The LACDPW maintains a list of permits for Los Angeles County, except for those tanks located in Los Angeles and Torrance (Table 13).

7.3 RESULTS

Facilities within a 1-mile radius of the Montrose property with reported emissions or releases as compiled from the TRI data base records include: AKZO Coatings Inc., Amoco Chemicals Corporation, Capitol Metals Processing, Douglas Aircraft Company, and Interweb/R.R. Donnelley & Sons Company (Appendix C). Facilities within a 1-mile radius of the Montrose property listed in the State of California Expenditure Plan for the Hazardous Substance Cleanup Bond Act of

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1984 (revised 1987) include the Del Amo Hazardous Waste Site and Golden Eagle Refinery (Appendix D). Hazardous waste generators within a 1-mile radius of the Montrose property were summarized (Table 11; Appendix E).

Twenty-five sites were identified from agency listings within a 1-mile radius of the Montrose property (Table 9; Figure 21). Five out of the 25 sites identified were listed with the agencies because they maintain records regarding site inspections, health permits, and discharge permits. The remaining 20 sites were listed with the agencies due to reported releases to the environment. Eight out of the 20 sites reporting releases are located near the Montrose property and/or are located downgradient. These eight sites are Douglas Aircraft Company C6 Facility, Trico Industries, Del Amo Hazardous Waste Site, Golden Eagle Refining Company, Inc., Royal Boulevard Class III Diposal Site, AKZO Coatings America, Inc., Jones Chemical Company, and The Carson Estates (Table 9; Figure 21).

Public records for fifteen of the identified sites were reviewed or obtained from DHS, Long Beach; RWQCB, Monterey Park; LACDPW; the City of Torrance Fire Department; and the Los Angeles County Department of Health Services (LADHS) (Table 14; Appendix F). The remaining 10 sites were not reviewed because the sites were located upgradient, no information could be obtained, or the information obtained was not relevant.

Fifty additional sites were identified between about 1- and 2-miles from the Montrose property (Table 10; Figure 22). The majority of these sites are located upgradient from the property and southwest from the property. Public records for several of the identified sites were reviewed or obtained and are available in the H+A Montrose project file.

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7.3.1 Douglas Aircraft Company C6 Facility

The Douglas Aircraft Company C6 Facility is located upgradient on the northern and western border of the Montrose property (Figure 21). A soil and

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groundwater investigation was conducted to characterize the extent of contamination associated with a release at the site (Woodward-Clyde Consultants, 1988a, 1988b and 1989). Monitor wells have been installed on the property. A work plan was submitted to the RWQCB outlining tasks to evaluate the extent of contamination in the soil and groundwater on the property (Appendix F). According to McDonnell Douglas, the tasks proposed in the work plan have been completed (Hargis + Associates, Inc., 1990). Presently, the data is being evaluated by McDonnell Douglas Corporation's consultants and will be presented in a summary reported being prepared for the RWQCB. Data regarding the reported release of compounds are contained in the TRI data base (Appendix C). Tanner report data are also available for this site (Appendix E).

7.3.2 Trico Industries

Trico Industries is located upgradient to the northeast of the Montrose property (Figure 21). According to data compiled for the South Bay Project, Trico Industries is being investigated by the RWQCB for release of contaminants into the soil and groundwater (U.S. Environmental Protection Agency, 1990). Monitor wells were reportedly installed on the property (U.S. Environmental Protection Agency, 1990). Data were not available from the RWQCB at the time of request regarding the nature and extent of contamination.

7.3.3 Del Amo Hazardous Waste Site

The Del Amo Hazardous Waste Site is located southeast of the Montrose property (Figure 21). A soil and groundwater investigation was conducted to characterize the extent of contamination associated with releases from this former disposal area (Ecology & Environment, 1983 and 1989; Dames & Moore, 1984; Woodward-Clyde Consultants, 1987). Monitor wells have been installed on the property. The report that discusses this investigation has been summarized (Appendix F). The DHS outline the status of the site in the California Expenditure Plan (Appendix D).

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7.3.4 Golden Eagle Refining Company

The Golden Eagle Refining Company, Inc. is located southeast of the Montrose property near Torrance Blvd. and Figuroa Street (Figure 21). A preliminary site assessment was conducted at this former refinery to characterize the extent of contamination associated with a release from the site (Bright & Associates, 1985 and 1986; Dames & Moore, 1986; Los Angeles County Department of Health Services, 1986b). Monitor wells have been installed on the property. The only available report for this site has been summarized (Appendix F). The DHS outlined the status of the site as of 1987 in the California Expenditure Plan (Appendix D).

7.3.5 Royal Boulevard Class III Disposal Site

The Royal Boulevard Class III Disposal Site is located directly downgradient from the Montrose property (Figure 21). A soil and groundwater investigation was conducted to characterize the extent of contamination associated with a release from the disposal area (BCL Associates, Inc., 1987). Monitor wells have been installed on the property. The report which discusses this investigation has been summarized (Appendix F). Tanner report data are also available for this site (Appendix E).

7.3.6 AKZO Coatings America, Incorporated

The AKZO Coatings America, Inc. site is located directly downgradient from the Montrose property west of the Royal Boulevard Class III Disposal site (Figure 21). A soil and groundwater investigation was conducted to characterize the extent of contamination associated with releases from underground storage tanks located on the property (ENSR, 1989a and 1989b). Based on the results reported in the available document, monitor wells have been installed on the

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property. The report that discusses this investigation has been summarized (Appendix F). Data regarding the reported release of compounds are contained in the TRI data base (Appendix C).

7.3.7 Jones Chemical Company

Jones Chemical Company is located cross-gradient to the southwest of the Montrose property (Figure 21). According to data compiled for the South Bay Project, this site is being investigated by DHS for possible release of contaminants into the soil and groundwater ~~(U.S. Environmental Protection Agency, 1990)~~ DHS, 1989.

7.3.8 The Carson Estates

The Carson Estates is located due west of the Montrose property on Western Boulevard (Figure 21). A soil and groundwater investigation was conducted to characterize the extent of contamination associated with a release from the former service station (Bright & Associates, Inc., 1988a and 1988b; Hydro-Fluent, 1987a, 1987b, 1987c). Monitor wells have been installed on the property. The reports that discuss this investigation have been summarized (Appendix F).

7.3.9 Underground Tanks, Pipelines, Landfills

Fifty-two underground storage tank permits were identified from LACDPW records for Los Angeles County within about a 1-mile radius of the Montrose property (Table 13; Figure 23). These tanks are distributed throughout the area to the north and east of the property and reflect the areas that are more industrialized. LACDPW permits all underground storage tanks in Los Angeles County except for five cities that conduct their own permitting. The cities of Los Angeles and Torrance permit underground storage tanks through their

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respective fire departments. Underground storage tank permits from the Los Angeles and Torrance Fire Departments will be identified and included in the final draft of this report.

Pipelines that carry petroleum products were identified by the State Fire Marshall (Hargis + Associates, Inc., 1989b). Buried pipelines are located along Normandie Avenue to the east of the Montrose property and along Del Amo Boulevard south of the property. The State Fire Marshall is the agency that regulates these pipelines. The State Fire Marshall identified the owners or operators of these pipelines (Table 15). The identified pipelines carry a wide range of products including crude oil, diesel, gasoline, jet fuel, and liquid styrene. The owners and operators of the pipelines were contacted by H+A and were requested to supply information about their respective pipelines. The requested data included pipeline locations, diameters, and products shipped. Compilation of this data is still in progress and will be included in the final draft of this report.

Forty-four landfills were identified in the vicinity of the Montrose property (Table 13; Figure 24). The majority of these landfills are located 2 miles east of the site.

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TABLES

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TABLE 1

WATER SERVICE AGENCIES IN THE SITE VICINITY

AREA NUMBER	ENTITY	LOCATION ON FIGURE 13
1	California - American Water Company (nonparty)	B- 2
1-A	California Water Services Company	F- 5, G- 8
2	Dominquez Water Corporation	C- 8
3	El Segundo, City of	D- 3
4	Hawthorne, City of	C- 4
5	Inglewood, City of	B- 3
6	Long Beach, City of	C- 11
7	Los Angeles, City of	E- 9
8	Los Angeles County Waterworks District No. 13	E- 8
9	Los Angeles County Waterworks District No. 22	C- 4
9-A	Los Angeles County Waterworks District No. 26 (nonparty)	E- 3
10	Manhattan Beach, City of	E- 4
11	Park Water Company	C- 5
12	Signal Hill, City of (nonparty)	B- 11
13	Southern California Water Company	B- 5
14	Torrance, City of	E- 7

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Note: See Figure 13 for location of water service areas
Reference: State of California, Department of Water Resources, 1989

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TABLE 2

PUBLIC WATER SUPPLY WELLS IN THE SITE VICINITY

WATER PURVEYOR	WELL NAME	STATE WELL NUMBER	DATE DRILLED	CASING DEPTH (feet)	SHALLOWEST DEPTH OF PERFORATION (feet)	PRODUCTION CAPACITY (gpm)
Dominguez Water Corporation	Well #19	4S/13W-17D01	1918	1,048	504	540
Dominguez Water Corporation	Well #33	4S/14W-10D4	1969	600	312	650
City of Torrance	Well #6	3S/14W-32C2	1966	815	200	2,500
Southern California Water Co.	Dalton #1	3S/14W-25P04	1948	751	544	600
City of Torrance	Well #4	4S/14W-10K02	1965	805	180	2,400
City of Torrance	Well #5	4S/14W-10K02	1965	816	210	2,500

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Note: See Figure 14 for location of public supply wells
Reference: State of California, Department of Water Resources, 1989
gpm = gallons per minute

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TABLE 3

INDIVIDUAL WATER PRODUCERS IN THE SITE VICINITY

AREA	ENTITY	LOCATION ON FIGURE 15
1	ABC Nursery Inc.	B-7
2	American Plant Growers Inc.	D-8
3	Asahi Fancy Koi Inc.	*
4	Atlantic Richfield Company	C-9
5	Automation Industries Inc.	B-7
7	Carson Auto Inc.	C-9
8	Carson Madrona Company	E-6
9A	Chandler Palos Verdes Sand and Gravel Corporation	F-8
9B	Chevron U.S.A., Lease on Isabela J. Granz Estate	E-7, G-2
10	CBS Inc.	D-5
12	Curtis, Owen W.	B-6
13	Delaney, Golda, Estate of	D-8
14	Desser Enterprises	C-9
15	Engelsea, Jake	*
17	Fletcher Oil & Refining Co.	D-8
18	Fujisoto, Samuel R. and Raymond S.	B-6
19A	Garrett Corporation, The	D-6
19B	GATX Tank Storage Terminals Corporation	D-9
20	Gillingham, Florence R., et al	D-6
24	Hillside Memorial Park	B-2
25	Hollywood Park Operating Company	B-3
33	Leusinger, Emma L., Estate of	C-3
35	Los Angeles County Alondra Park	D-5
36	Los Angeles County Sanitation District No. 2	E-8
37	Los Angeles County Chester Washington Golf Course	B-5
38A	Loyola Marymount University	C-1
38B	Manville Sales Corporation	C-9
39	Mayflower Nurseries	C-6
40	McDonnell Douglas Corporation	D-6
41	McFadden, John K. (nonparty)	B-6
42	Mobil Oil Corporation	D-6
43	Mori, Roy H. and Kenji	C-6
44A	Northrop Corporation	C-4
44B	Nozaki, Susikichi (see So. Calif. Edison Co.)	*
46	Pacific Crest Cemetery Company	D-5
47	Palos Verdes Begonia Farm	F-6
48	Pacific Telephone (nonparty)	C-6
49	Pioneer Paper Stock (nonparty)	C-6

Note: See Figure 15 for location of individual water producers
Reference: State of California, Department of Water Resources, 1989
*No service area ownership

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TABLE 4

GROUNDWATER EXTRACTION WELLS IN THE SITE VICINITY

WELL IDENTIFICATION CDWR	LACDPW	OTHER	OWNER	ELEVATION (ft msl)	DEPTH (ft)	DIAMETER (in)	PERFORATIONS (ft)	DATE DRILLED	USE	TOTAL PUMPAGE (acre ft)
4S/14W 17D1	836A	Well #19	Dominguez Water Corp.	30	1701	12	504-511 525-560 585-610 635-660	1918	public supply	0.00
4S/14W 35P7			The Garrett Corporation						industrial	4.70
3S/14W-25R		Norm 1	Mayflower Nursuries						irrigation	0.00
4S/14W 3L2		TC002	Mobil Oil Corporation						industrial	282.11
4S/14W-3L4		TC004	Mobil Oil Corporation						industrial	387.24
4S/14W-3L7		TC007	Mobil Oil Corporation						industrial	157.23
4S/14W-3L8		TC008	Mobil Oil Corporation						industrial	4784.13
3S/14W 25P4	792W	Dalton #1	So. Calif. Water Company	82	751	16	544-734	1948	public supply	601.14
4S/14W 10K2	766A	Well #4	City of Torrance		812	16	180-812	1965	public supply	855.59
4S/14W 10K3	766B	Well #5	City of Torrance		815	16	210-276	1966	public supply	709.89
3S/13W 31P1	813N		Maxwell Zeigler	35	644	10	550-574 640-644	1949	domesitc	19.76
3S/14W-3202	762JJ	Well #6	City of Torrance		815	16	200-786	1966	public supply	437.28
4S/14W-10D4		Well #33	Dominguez Water Corp.		600	16/12	312-352 462-556	1969	public supply	0.25

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Reference: State of California, Department of Water Resources, 1989
CDWR = State of California, Department of Water Resources
LACDPW = Los Angeles County, Department of Public Works, formerly well identifications were referred to as Los Angeles County Flood Control District
ft msl = Feet, mean sea level
ft = Feet
in = Inches

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TABLE 5

STATIC WATER LEVELS, MONTROSE PROJECT MONITOR WELLS

WELL ID	DATE	REFERENCE POINT ELEVATION (feet msl)	DEPTH TO WATER BELOW REFERENCE POINT (feet)	WATER LEVEL ELEVATION (feet msl)	METHOD OF MEASURING
MW-1	11-13-89	42.83	65.12	-22.29	Flat tape sounder
MW-2	---	48.79	---	---	---
MW-3	11-13-89	47.41	68.52	-21.11	Flat tape sounder
MW-4	11-13-89	46.69	68.02	-21.33	Flat tape sounder
MW-5	11-13-89	44.95	66.58	-21.63	Flat tape sounder
MW-6	11-13-89	45.68	67.47	-21.79	Flat tape sounder
MW-7	11-13-89	47.42	68.38(product)	-20.96(product)	Steel tape*
			68.79(water)	-21.37(water)	Steel tape
MW-10	11-13-89	43.20	64.50	-21.30	Flat tape sounder
MW-11	11-13-89	42.69	64.61	-21.92	Flat tape sounder
MW-12	11-13-89	40.17	62.30	-22.13	Flat tape sounder

msl = Mean sea level
(---) = Static water levels in MW-2 were not measured due to presence of free product
*Product thickness measured with a steel tape and Kolor Kut pastes

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TABLE 5 (continued)
STATIC WATER LEVELS, MONTROSE PROJECT MONITOR WELLS
Page 2

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WELL ID	DATE	REFERENCE POINT ELEVATION (feet msl)	DEPTH TO WATER BELOW REFERENCE POINT (feet)	WATER LEVEL ELEVATION (feet msl)	METHOD OF MEASURING
MW-13	11-13-89	42.34	64.73	-22.39	Flat tape sounder
MW-14	11-13-89	43.13	65.65	-22.52	Flat tape sounder
MW-15	11-13-89	40.51	62.95	-22.44	Flat tape sounder
MW-23	11-13-89	36.35	59.79	-23.44	Flat tape sounder
MW-24	11-13-89	22.40	45.21	-22.81	Flat tape sounder
MW-25	11-13-89	31.98	55.94	-23.96	Steel tape
MW-26	11-13-89	39.17	61.89	-22.72	Flat tape sounder
BF-1	1-13-89	48.28	69.11	-20.83	Flat tape sounder
BF-2	11-13-89	49.49	70.57	-21.08	Flat tape sounder
BF-3	11-13-89	48.27	69.43	-21.16	Flat tape sounder
BF-4	11-13-89	47.67	68.96	-21.29	Flat tape sounder
BF-5	11-13-89	39.37	61.48	-22.11	Flat tape sounder
BF-6	11-13-89	41.70	63.98	-22.28	Flat tape sounder
BF-7	11-13-89	42.64	64.72	-22.08	Electric sounder

msl = Mean sea level

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TABLE 5 (continued)
STATIC WATER LEVELS, MONTROSE PROJECT MONITOR WELLS
Page 3

WELL ID	DATE	REFERENCE POINT ELEVATION (feet msl)	DEPTH TO WATER BELOW REFERENCE POINT (feet)	WATER LEVEL ELEVATION (feet msl)	METHOD OF MEASURING
BF-8	11-13-89	39.72	61.36	-21.64	Flat tape sounder
BF-9	11-13-89	48.69	69.70	-21.01	Flat tape sounder
BF-10	12-19-89	28.67	53.27	-24.60	Electric sounder
BF-11	12-19-89	33.66	59.20	-25.54	Electric sounder
BF-12	12-19-89	22.20	48.15	-25.95	Electric sounder
BF-13	11-13-89	29.52	53.35	-23.83	Flat tape sounder
BF-14	11-13-89	36.30	59.67	-23.37	Flat tape sounder
BF-15	11-13-89	22.82	45.95	-23.13	Electric sounder
BF-16	12-19-89	35.31	60.57	-25.26	Electric sounder
BF-17	12-20-89	22.67	48.56	-25.89	Flat tape sounder
G-1	11-13-89	46.66	67.83	-21.17	Flat tape sounder
G-2	11-13-89	43.46	65.40	-21.94	Flat tape sounder
G-3	11-13-89	49.69	71.16	-21.47	Flat tape sounder

msl = Mean sea level

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TABLE 5 (continued)
STATIC WATER LEVELS, MONTROSE PROJECT MONITOR WELLS
Page 4

WELL ID	DATE	REFERENCE POINT ELEVATION (feet msl)	DEPTH TO WATER BELOW REFERENCE POINT (feet)	WATER LEVEL ELEVATION (feet msl)	METHOD OF MEASURING
G-4	11-13-89	39.70	62.23	-22.53	Flat tape sounder
G-5	11-13-89	41.71	64.31	-22.60	Flat tape sounder
G-6	11-13-89	42.54	65.02	-22.48	Flat tape sounder
G-7	11-13-89	39.88	61.83	-21.95	Flat tape sounder
G-8	12-20-89	22.52	46.20	-23.68	Flat tape sounder
G-9	12-19-89	28.48	54.09	-25.61	Electric sounder
G-11	11-13-89	29.48	54.67	-25.19	Flat tape sounder
G-12	11-13-89	25.85	50.40	-24.55	Flat tape sounder
G-13	11-13-89	36.09	60.36	-24.27	Flat tape sounder
LG-1	11-13-89	43.24	65.25	-22.01	Flat tape sounder
LG-2	11-13-89	44.61	66.18	-21.57	Flat tape sounder
LW-1	11-13-89	45.02	77.71	-32.69	Flat tape sounder
LW-2	11-13-89	42.07	75.05	-32.98	Flat tape sounder
LW-3	12-20-89	40.33	72.93	-32.60	Flat tape sounder

msl = Mean sea level

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TABLE 6

ACTIVELY MONITORED WELLS WITHIN 2-MILE RADIUS OF MONTROSE PROPERTY

WELL IDENTIFICATION			OWNER	ELEVATION (ft msl)	DEPTH (ft)	DIAMETER (in)	PERFORATIONS (ft)	DATE DRILLED	USE	REMARKS	DATA SHEET*	WELL LOG**
CDWR	LACDPW	OTHER										
	762C	USGS 3/14-27K3	Mr. Ralph	47	65						Y	N
3S/14W-34C2	762JJ	Well #6	City of Torrance		810	16	200-786	1965	Municipal Supply		Y	Y
3S/14W-34B2	763J	USGS	So. California Edison Co.	65	485	12		1929	Industrial	Monitored for Water Quality	Y	
	764A	USGS 4/14 3L2	General Petroleum Corp. (Mobil Oil)	73.4	450	30 0-24 16 24-450	130-450	4/1938	Industrial		Y	Y
	764B	USGS 4/141-363	General Petroleum Corp. (Mobil Oil, 1961)	75	450	16	130-450	4/40	Industrial		Y	Y
	764C	USGS 4/14-3C4	General Petroleum Corp. (Mobil Oil, 1961)	75	454	16	124-448	6/1942	Observation	Monitored for Water Quality	Y	Y
4S/14W-10K2	766A	Well #4	City of Torrance		812	16	180-812	1965	Municipal Supply		Y	Y
4S/14W-10K3	766B	Well #5	City of Torrance		816	16	210-786		Municipal Supply		Y	Y
4S/14W-11B4	785D		U.S. Steel	68.1		16	198-218 260-280 305-390	1/9/35	Industrial	Stand-by	Y	
	792	USGS 3/14-27K3	Mrs. E.V. Kuape	36	231	8		1927	Irrigation/ Domestic	Monitored for Water Quality	Y	Y
3S/13W-35A5	792Z		LACFCD	27.3	260	2	210-220	7/5/62	Observation		Y	Y
4S/14W-1F2	794B	Alcoa #2	McDonnell-Douglas Corp.	51	600	14	477-506 525-530 535-540	1942	Industrial	Formerly Alcoa	Y	Y
4S/14W-1F3	794C	Alcoa #1	McDonnell-Douglas Corp.	51	600	14	427-433	1942	Industrial	Monitored for	Y	Y

*Data Sheets contain data regarding well owner, address, etc.; data sheets are not confidential and are available at LACDPW, CDWR

**Well logs contain data regarding lithologic and well construction details, well logs may contain confidential data

CDWR = State of California, Department of Water Resources

LACDPW = Los Angeles County, Department of Public Works; formerly well identifications were referred to as Los Angeles County Flood Control District

USGS = U.S. Geological Survey

Y = Yes

N = No

ft msl = Feet, mean sea level

ft = Feet

in = Inches

hp = Horsepower

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TABLE 6 (continued)
ACTIVELY MONITORED WELLS WITHIN 2-MILE RADIUS OF MONTROSE PROPERTY
Page 2

WELL IDENTIFICATION CDWR	LACDPW	OTHER	OWNER	ELEVATION (ft msl)	DEPTH (ft)	DIAMETER (in)	PERFORATIONS (ft)	DATE DRILLED	USE	REMARKS	DATA SHEET*	WELL LOG**
4S/14W 1P1	795		Stauffer Chemical Co. (Jones Chemical Co.)	46	727	16	478-516 538-550 468-560	1943	Industrial	Water Quality; Formerly Alcoa Pump removed 1967	Y	Y
4S/14W 1Q2	806C		LACFCD	25	165	8		1956	Observation		Y	Y
4S/14W 24A01	808		L.A. Unified School District	55	563	12	245-258 280-288 338-344 380-388 460-470	1/29	None	Capped 4-19-73	Y	Y
	812M	USGS 3/13-31CZ	Glen Voss	27	650	12		1920	Domestic Irrigation	Well has air gauge	Y	N
3S/13W 36N7	812Z		Morningside Service Garage	30	152	8		1949	Irrigation		Y	N
3S/13W 31M1	813N		Maxwell Zeigler	35	604	10	550-574 638-644	1949	Domestic	Monitored for Water Quality	Y	Y
3S/13W 31A1	813Y		Ben F. Karran	25	35	8		1948	Domestic		Y	N
3S/13W 31L	814Z		Pet Haven Cemetary	25				1955-1960	Irrigation		Y	N
4S/13W 1Q1	814A		LACFCD	22	70			1937	Observation		Y	Y
4S/13W 18P01	818A	USGS 4/13-18H1	C.G. Fiesel	43.1	250	8		1900±	Domestic Irrigation Stock	Little use 1947	Y	N
4S/13W 19B1	818B	USGS 4/13-18Q1	General Petroleum Inc.	40.7	251	12		1922			Y	N
3S/13W 31B7	822FF		Clark and Grace Day	27	384	10	365-370	8/28/48	Domestic Irrigation		Y	Y

*Data Sheets contain data regarding well owner, address, etc.; data sheets are not confidential and are available at LACDPW, CDWR
**Well logs contain data regarding lithologic and well construction details, well logs may contain confidential data
CDWR = State of California, Department of Water Resources
LACDPW = Los Angeles County, Department of Public Works; formerly well identifications were referred to as Los Angeles County Flood Control District
USGS = U.S. Geological Survey
Y = Yes
N = No
ft msl = feet, mean sea level
ft = Feet
in = Inches
HP = Horsepower

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TABLE 6 (continued)
ACTIVELY MONITORED WELLS WITHIN 2-MILE RADIUS OF MONTROSE PROPERTY
Page 3

WELL IDENTIFICATION			OWNER	ELEVATION (ft msl)	DEPTH (ft)	DIAMETER (in)	PERFORATIONS (ft)	DATE DRILLED	USE	REMARKS	DATA SHEET*	WELL LOG**
CDWR	LACDPW	OTHER										
3S/13W 32E2	823F		Clyde Sheets	25	579	10 8		11/9/53	Domestic Irrigation	10 hp pump	Y	N
	833D		J. Larrande	35.9	275	8			Dam & Stock		Y	N
	833A		L.A. County Highway Dept.	48.0	750	12	628-635	12/14/18	Abandoned	Pump removed	Y	N
							643-733			12-1-59		
4S/13W-5L1	834		Del Amo Estate Co.	36.1	720	16	555-562	11/12/48	Dairy	Recapped 5-3-61	Y	Y
							570-636					
							640-644					
							672-676					
4S/13W 4G2	835E		LACFCD	41.92	179	2	117-179	1/10/54	Observation		Y	Y

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*Data Sheets contain data regarding well owner, address, etc.; data sheets are not confidential and are available at LACDPW, CDWR
**Well logs contain data regarding lithologic and well construction details, well logs may contain confidential data
CDWR - State of California, Department of Water Resources
LACDPW - Los Angeles County, Department of Public Works; formerly well identifications were referred to as Los Angeles County Flood Control District
USGS - U.S. Geological Survey
Y - Yes
N - No
ft msl - Feet, mean sea level
ft - Feet
in - Inches
hp - Horsepower

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TABLE 7

ACTIVE AND INACTIVE WELLS WITHIN 1-MILE OF MONTROSE PROPERTY

WELL IDENTIFICATION...			OWNER	ELEVATION (ft msl)	DEPTH (ft)	DIAMETER (in)	DEPTH OF PERFORATIONS (ft)	DATE DRILLED	USE	REMARKS
5/14W 35R1			So. Cal Edison Co.	57	550	12	470-485*	5/16/19	Abandoned	
5/14W 36K1			L.H. Figge	48	322				Domestic,stock	No records at DWR
5/14W 36N1	793J		John Zurlite	52	80	4				
5/14W 36N2	794D		John Zurlite	52	68	6			Abandoned	
5/14W 36Q1	803Q		E.C. Irvine Ranch	45	512	10		1949	Observation	
5/14W 36Q2	804A		Joe B. Ramos	46	352	6			Domestic,irrigation	
5/14W 36R1			F.J. Easter	37	254	10			Domestic	
5/14W 36R2			Bennett	36	70				Domestic	
5/14W 1P1	794A	Alcoa #3	McDonnell-Douglas Corp.	51	600	14	473-514	10/09/42	Industrial	Formerly Alcoa
5/14W 1P2	794B	Alcoa #2	McDonnell-Douglas Corp.	51	600	14	477-506*	09/07/42	Industrial	Formerly Alcoa
5/14W 1P3	794C	Alcoa #1	McDonnell-Douglas Corp.	51	600	14	427-433*	08/29/42	Industrial	Formerly Alcoa
5/14W 11G1	785A	Well #2	U.S. Steel	63	653	14			Abandoned	Formerly Columbia Steel
5/14W 11G2	785	Well #1	U.S. Steel	67	613	14	293-304*	1927		Formerly Columbia Steel
5/14W 12Q1	806		Mrs. J.M. Carson	44	373	7		1902	Observation	
5/14W 12K1	805		Frank S. Austin	34	200	7			Observation	
5/14W 1P1	795		Stauffer (Jones Chemical)	46	727	16	486-560*	1943	Industrial	Pump removed 9/21/67
5/14W 12Q1	806C		LACFCD	25	165	8		10/01/56	Observation	
5/13W 31M1	813N		Maxwell Zeigler	35	664	10	550-574*	1949	Domestic	
5/13W-7L1	816		Sunset Oil Co.	27	580	12	528-580	1946	Abandoned	Destroyed 1972
5/14W-36Q3	804B		M.E. Woods	47	702	12				
5/14W-36P1	804									Record at CDWR, log N/A
5/14W 36P2	803N									Record at CDWR, log N/A
5/14W 36P3	793A									Record at CDWR, log N/A
5/14W 36P4										Record at CDWR, log N/A

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CDWR = State of California, Department of Water Resources
LACDPW = Los Angeles County, Department of Public Works, formerly well identifications were referred to as Los Angeles County Flood Control District (LACFCD)
ft msl = Feet, mean sea level
' = Feet
" = Inches
NA = Not available

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TABLE 8

AGENCY CONTACTS FOR REGIONAL HYDROGEOLOGIC ASSESSMENT

	DEPARTMENT/DIVISION	NUMBER	STREET NAME	CITY	ZIP CODE	PHONE NUMBER	CONTACT
City of Los Angeles	Department of Water and Power	111	North Hope Street	Los Angeles	90051	213 481 5411	Victor Vargas
City of Los Angeles	Fire Department	200	North Main Street	Los Angeles	90051	213 485 5971	Agency Representative
City of Torrance	Chamber of Commerce	3400	Torrance Blvd., Ste. 100	Torrance	90503	213 540 5858	Agency Representative
City of Torrance	Fire Department	3031	Torrance Blvd.	Torrance	90503	213 618 6253	John Kulluk
Los Angeles County	Central and West Basin Replenishment District	7439	East Florence Avenue	Downey	92040	213 927 2611	Tom Salzano, Jim Jhan
Los Angeles County	Department of Health Services/Hazardous Materials Division	12838	Erickson Avenue	Downey	90242	213 744 3223	John Shook
Los Angeles County	Department of Public Works/Hydraulics and Water Conservation	900	South Fremont	Alhambra	91803	818 458 6106	George Farag
Los Angeles County	Department of Public Works/Waste Management Division	900	South Fremont	Alhambra	91803	818 458 6106	Jeff Chow
Los Angeles County	Sanitation Department	1955	Workman Mill Road	Whittier	90601	213 685 5217	Sule Sulejmanigic
State of California	Environmental Affairs Agency	1102	Q Street	Sacramento	95814	916 322 2793	Ken Redbrink
State of California	Department of Health Services/Toxics Substances Control Division	714	P Street	Sacramento	94234	916 324 3773	Vicki Vandergriff, Gale McNeal
State of California	Department of Health Services/Toxics Substances Control Division	245	West Broadway #350	Long Beach	90602	213 590 4868	Alice Gimeno
State of California	Department of Water Resources	1416	9th Street	Sacramento	95814	916 445 9248	Betty Swatzenberg
State of California	Department of Water Resources/Watermaster Service	849	South Broadway	Los Angeles	90055	213 620 4203	Chris Magler
State of California	Fire Marshall	1501	West Cameron Ave. S. Bldg. Ste. 250	West Covina	91790	818 337 9999	Bob Gorham
State of California	Regional Water Quality Control Board	101	Centre Plaza Drive	Monterey Park	91754	213 266 7522	Hank Yacob
State of California	Southern Department of Water Reources	849	South Broadway	Los Angeles	90055	213 620 4203	Ed Lowe
United States	Environmental Protection Agency	215	Fremont Street	San Francisco	94105	415 974 7280	Kathleen Goforth

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TABLE 9

SITES WITHIN 1-MILE RADIUS OF MONTROSE PROPERTY LISTED WITH AGENCIES

SITE #	SITE NAME	NUMBER	STREET NAME	CITY	ZIP	SOURCE OF LISTING*	AGENCY WITH AVAILABLE FILE**	COMMENT
1	AKZO Coatings America, Inc.	20846	South Normandie Avenue	Torrance	90502	URL/EAA	LACDPW	Release
2	Amoco Chemicals Corporation	1225	West 190th Street	Torrance	90502	CA/EPA	LACDPW	Permit
3	Cadillac Fairview, Inc. (Tylan Corp.)	19200	South Normandie Avenue	Torrance	90502	EPA	LACDPW/LA DHS	Permit
4	Carson Estates Company	20225	South Western Avenue	Torrance	90501	CA/CEP	DHS	Release
5	Del Amo Hazardous Waste Site		Del Amo Blvd.	Torrance	90502	URL	RWQCB	Release
6	Douglas Aircraft Company (McDonnell-Douglas Corp.)	19503	South Normandie Avenue	Torrance	90502	URL/EAA	RWQCB	Release
7	Golden Eagle Refining Company	21000	South Figueroa Street	Carson	90745	EPA/CEP	DHS/LA DHS	Release
8	Interweb/RR Donnelley & Sons	19681	Pacific Gateway Drive	Torrance	90502	EPA/EAA	ND	Release
9	Jones Chemical	1401	West Del Amo Blvd.	Torrance		SBS	ND	Release
10	Lawson Enterprises Inc.		Royal Blvd.	Torrance	90055	CA/EPA	ND	Release
11	Maruiso Kaisan USA, Inc. (Goer Mfg.)	19100	South Vermont Avenue	Torrance	90248	EPA	ND	Permit
12	Teledyne Sprague Engineering	19300	South Vermont Avenue	Gardena	90044	URL	LACDPW	Release
13	Mobil Station	20225	South Van Ness Ave.	Los Angeles		SBS	LA DHS	Release
14	Rolling Leasing Corporation	20425	South Hamilton Avenue	Torrance		SBS	ND	Release
15	Royal Blvd. Class III Disposal Site		Royal Blvd.	Compton	90055	CA	ND	Release
16	Rubber Teck, Inc.	19115	South Hamilton Street	Torrance	90248	EPA	DHS	Permit
17	Texaco Station	19008	South Normandie Avenue	Gardena	90007	URL	LADDPW/LA DHS	Release
18	Toyota Motor Sales	19001	South Western Avenue	Los Angeles	90509	URL	ND	Release
19	Trico Industries	19706	Normandie Avenue	Torrance	90248	URL/SBS	TFD	Release
20	Unocal Station #5131	18605	South Western Avenue	Los Angeles	90248	URL	ND	Release
21	Unocal Station #6075	1875	West 190th Street	Torrance	90504	URL	RWQCB	Release
22	Western Concrete Structure	19113	South Hamilton Avenue	Torrance	90248	EPA	TFD	Release
1A	Pacific Bronze/Neodane Company, Inc.	1003	Santa Clara Ave.	Gardena		ARMCO	LA DHS	Permit
1B	Garret Air search	19800	Van Ness Ave.			ARMCO	ND	Release
31	Capitol Metals Processing	20000	South Western Avenue	Torrance	90501	EAA	ND	Release

*Site listed from these sources:
URL - State of California, Regional Water Quality Control Board
EAA - State of California Environmental Affairs Agency
CA - State of California, Department of Health Services, Toxic Substances Control Division
EPA - U.S. Environmental Protection Agency
CEP - State of California, Department of Health Services, California Expenditure Plan
SBS - South Bay Sites
ARMCO - Site identified by R.L. Stollar & Associates, Inc., 1987, for ARMCO, Inc

**Files available for review at these public agencies:
DHS - State of California, Department of Health Services Toxic Substances Control Division, Long Beach, CA
LACDPW - Los Angeles County Department of Public Works, Waste Management Division, Alhambra, CA
TFD - City of Torrance, Fire Department, Torrance, CA
RWQCB - Regional Water Quality Control Board, Monterey Park, CA
LA DHS - Los Angeles County, Department of Health Services, Downey, CA
ND - File status not determined

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BOE-C6-0185385

TABLE 9

SITES WITHIN 1-MILE RADIUS OF MONTROSE PROPERTY LISTED WITH AGENCIES

SITE #	SITE NAME	NUMBER	STREET NAME	CITY	ZIP	SOURCE OF LISTING*	AGENCY WITH AVAILABLE FILE**	COMMENT
1	AKZO Coatings America, Inc.	20846	South Normandie Avenue	Torrance	90502	URL/EAA	LACDPW	Release
2	Amoco Chemicals Corporation	1225	West 190th Street	Torrance	90502	CA/EPA	LACDPW	Permit
3	Cadillac Fairview, Inc. (Tylan Corp.)	19220	South Normandie Avenue	Torrance	90502	EPA	LACDPW/LA DHS	Permit
4	Carson Estates Company	20225	South Western Avenue	Torrance	90501	CA/CEP	DHS	Release
5	Del Amo Hazardous Waste Site		Del Amo Blvd.	Torrance	90502	URL	RWQCB	Release
6	Douglas Aircraft Company (McDonnell-Douglas Corp.)	19503	South Normandie Avenue	Torrance	90502	URL/EAA	RWQCB	Release
7	Golden Eagle Refining Company		South Figueroa Street	Carson	90745	EPA/CEP	DHS/LA DHS	Release
8	Interweb/RR Donnelley & Sons	21000	Pacific Gateway Drive	Torrance	90502	EPA/EAA	ND	Release
9	Jones Chemical	19681	West Del Amo Blvd.	Torrance		SBS	ND	Release
10	Lawson Enterprises Inc. (Goer Mfg.)	1401	Royal Blvd.	Torrance	90055	CA/EPA	ND	Release
11	Maruiso Kaisan USA, Inc	19100	South Vermont Avenue	Gardena	90248	EPA	LACDPW	Permit
12	Teledyne Sprague Engineering	19300	South Vermont Avenue	Los Angeles	90044	URL	LA DHS	Release
13	Mobil Station	20225	South Van Ness Ave.	Torrance		SBS	ND	Release
14	Rollins Leasing Corporation	20425	South Hamilton Avenue	Compton		SBS	ND	Release
15	Royal Blvd. Class III Disposal Site		Royal Blvd.	Torrance	90055	CA	DHS	Permit
16	Rubber Teck, Inc.	19115	South Hamilton Street	Gardena	90248	EPA	LADDPW/LA DHS	Release
17	Texaco Station	19008	South Normandie Avenue	Los Angeles	90007	URL	ND	Release
18	Toyota Motor Sales	19001	South Western Avenue	Torrance	90509	URL	TFD	Release
19	Trico Industries	19706	Normandie Avenue	Los Angeles	90248	URL/SBS	ND	Release
20	Unocal Station #5131	18605	South Western Avenue	Torrance	90248	URL	RWQCB	Release
21	Unocal Station #6075	1875	West 190th Street	Torrance	90504	URL	TFD	Release
22	Western Concrete Structure	19113	South Hamilton Avenue	Gardena	90248	EPA	LA DHS	Permit
1A	Pacific Bronze/Neodane Company, Inc.	1003	Santa Clara Ave.			ARMCO	ND	Release
1B	Garret Air search	19800	Van Ness Ave.	Torrance	90501	ARMCO	ND	Release
31	Capitol Metals Processing	20000	South Western Avenue			EAA	ND	

*Site listed from these sources:
- URL - State of California, Regional Water Quality Control Board
- EAA - State of California Environmental Affairs Agency
- CA - State of California, Department of Health Services, Toxic Substances Control Division
- EPA - U.S. Environmental Protection Agency
- CEP - State of California, Department of Health Services, California Expenditure Plan
- SBS - South Bay Sites
- ARMCO - Site identified by R.L. Stollar & Associates, Inc., 1987, for ARMCO, Inc

**Files available for review at these public agencies:
- DHS - State of California, Department of Health Services Toxic Substances Control Division, Long Beach, CA
- LACDPW - Los Angeles County Department of Public Works, Waste Management Division, Alhambra, CA
- TFD - City of Torrance, Fire Department, Torrance, CA
- RWQCB - Regional Water Quality Control Board, Monterey P
- LA DHS - Los Angeles County, Department of Health Servic Downey, CA
- ND - File status not determined

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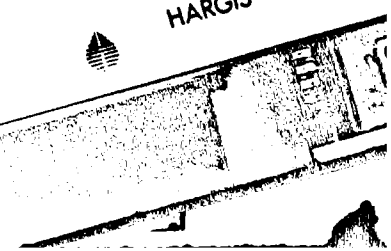

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TABLE 10 (continued)
SITES WITHIN 2-MILE RADIUS OF MONTROSE PROPERTY LISTED WITH AGENCIES
Page 2

SITE #	SITE NAME	NUMBER	STREET NAME	CITY	ZIP	SOURCE OF LISTING*	AGENCY WITH AVAILABLE FILE**
43	Gardena Valley Landfills 1 & 2		Main & Figueroa	Carson	90775	CA/EPA	DHS
44	Globe Illumination Company	1515	178th Street West	Gardena	90248	EPA	LACDPW/LA DHS
45	Honeywell Inc.	17300	Western Avenue South	Gardena	90247	URL/EPA	RWQCB
46	Industrial Molding Corporation	16719	Gramercy Place	Gardena	90247	EPA	ND
47	LAUSD Maintenance Area 6	17728	Figueroa Street South	Gardena	90248	URL	ND
48	Liquid Chemical Corporation	18911	Main Street South	Carson	90248	EPA	DHS
49	Los Angeles County Fire Dept.	755	Victoria Street East	Carson	9076	URL	LACDPW
50	Luseaux Labs	16816	Gramercy Pl. South	Gardean	90247	CA/EPA	LACDPW/LA DHS
51	Martin Adams Dump		Dolores and 213th Street	Carson	90745	EPA	ND
52	Monsanto	2100	E. 223rd Street	Carson		SBS	ND
53	Mobil Oil Corporation,	3700	190th Street West	Torrance	90509	CA	DHS/LA DHS
54	Mobil Station #17-UCP	19009	Crenshaw Blvd.	Torrance	90504	URL	TFD
55	Mobil Station #11 MAB	20240	Avalon Blvd.	Carson	90248	URL	LACDPW
56	Pacific Smelting Company	22219	Western Avenue South	Torrance	90501	URL/EPA	RWQCB/LA DHS
57	Reynolds Metals Company	2315	Dominquez Street	Torrance	90509	EPA	DHS
58	Rubber Craft	1800	220th Street West	Torrance	90501	URL	TFD
59	Sears Roebuck and Company	1917	Artesia Blvd. West	Gardena	90248	URL	RWQCB/LA DHS
60	Shell Station	18130	Western Street South	Gardena	90247	URL	LACDPW
61	Shell Station	20223	Avalon Blvd.	Carson	90746	URL	RWQCB/LA DHS
62	So Cal	21629	Figueroa Street South	Carson	90745	URL	LACDPW/LA DHS
63	Southwest Conservation	20300	South Main Street	Carson	90745	CA/EPA	ND
64	Terry's Service Station	1924	Carson Blvd.	Torrance	90501	URL	RWQCB
65	Torrance Center I	1739	West 213th Street	Torrance		SBS	ND
66	Venus Laboratories, Inc.	18903	Main Street South	Carson	90745	EPA	DHS/LA DHS
67	Victoria Golf Course	840	192nd Street East	Carson	90746	CA	DHS
68	Werdin Dump	20420	Main Street South	Carson	90746	EPA	LACDPW
69	ARMCO, Inc	21431	South Western Ave.	Torrance	-----	ARMCO	ND

*Site listed from these sources:
URL - Regional Water Quality Control Board
EAA - State of California Environmental Affairs Agency
CA - State of California, Department of Health Services, Toxic Substances Control Division
EPA - U.S. Environmental Protection Agency
CEP - State of California, Department of Health Services, California Expenditure Plan
SBS - South Bay Sites
ARMCO - Site identified by R.L. Stollar & Associates, Inc., 1987, for ARMCO, Inc
(---) Information not available

**Files available for review at these public agencies:
DHS - State of California, Department of Health Services Toxic Substances Control Division, Long Beach, CA
LACDPW - Los Angeles County Department of Public Works, Waste Management Division, Alhambra, CA
TFD - City of Torrance, Fire Department, Torrance, CA
RWQCB - Regional Water Quality Control Board, Monterey Park, CA
LA DHS - Los Angeles County, Department of Health Services, Downey, CA
ND - File status not determined

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TABLE 10 (continued)
SITES WITHIN 2-MILE RADIUS OF MONTROSE PROPERTY LISTED WITH AGENCIES
Page 3

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SITE #	SITE NAME	NUMBER	STREET NAME	CITY	ZIP	SOURCE OF LISTING*	AGENCY WITH AVAILABLE FILE**
2B	Foundray Services and Supplies	1906	Oak Street	-----	-----	ARMCO	ND
2C	Internationsl Anodizing Corp. of California	1840	Oak Street	-----	-----	ARMCO	ND
2D	U.S. Steel Corp.	849	Van Ness Ave.	-----	-----	ARMCO	ND
2E	Solvent Coating	1031	Engracia Ave.	-----	-----	ARMCO	ND

*Site listed from these sources:
URL - Regional Water Quality Control Board
EAA - State of California Environmental Affairs Agency
CA - State of California, Department of Health Services, Toxic Substances Control Division
EPA - U.S. Environmental Protection Agency
CEP - State of California, Department of Health Services, California Expenditure Plan
SBS - South Bay Sites
ARMCO - Site identified by R.L. Stollar & Associates, Inc., 1987, for ARMCO, Inc
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DHS - State of California, Department of Health Services Toxic Substances Control Division, Long Beach, CA
LACDPW - Los Angeles County Department of Public Works, Waste Management Division, Alhambra, CA
TFD - City of Torrance, Fire Department, Torrance, CA
RWQCB - Regional Water Quality Control Board, Monterey Park, CA
LA DHS - Los Angeles County, Department of Health Services, Downey, CA
ND - File status not determined

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TABLE 11

HAZARDOUS WASTE GENERATORS WITHIN
1-MILE RADIUS OF MONTROSE PROPERTY

EPA NUMBER	FACILITY NAME	ADDRESS	TONS
CA0000343901	Ace Clearwater Enterprises	19815 Magellan Drive, Torrance, CA 90502	.40
CA1080010663	Airresearch Mfg. Co. of California	20225 Western Avenue, Torrance, CA 90510	458.29
CAD981660838	American Relays Inc.	677 West Knox Street, Gardena, CA 90248	.51
CAD084480106	Amoco Chemical Corp.	1225 West 190th Street, Torrance, CA 90502	19.44
CAD981447600	Capitol Metals Co., Inc.	20000 South Western Avenue, Torrance, CA 90501	84.64
CAD981417700	Computer Image Systems	19220 Normandie Avenue, Torrance, CA 90502	.78
CAD086510000S	Douglas Aircraft Company	190th St. and Normandie Avenue, Torrance, CA	9079.33
CAD982014763	Douglas Aircraft Company	21000 South Normandie Avenue, Torrance, CA	11.83
CAD982018370	Farmer Bros. Co.	20333 South Normandie Avenue, Torrance, CA 90502	11.25
CAD004781982	Garrett Processing Division	19800 Van Ness Avenue, Torrance, CA 90509	98.93
CAD063821011	Goer Mfg. Comp., Inc. (Marubiso Kaisan)	18100 South Vermont, Gardena, CA 90248	3.28
CAD981631740	GWF Poer Systems Co., Inc.	20200 Van Ness Avenue, Torrance	1150.05
CA0006317539	Harpers	2027 Harpers Way, Torrance, CA 90501	193.80
CAD982009540	Heidelberg West Inc.	19730 Magellan Drive, Torrance, CA 90502	3.00
CAD981441876	Housing Authority, City of L.A.	19600 Hamilton Avenue, Torrance CA 90502	12.51
CAD981964174	Hoya Lens of America, Inc.	970 Knox Street, Torrance, CA 90502	.52
CAD981440068	Hughes Aircraft Company, SCG	19700 Gramercy Place, Torrance, CA	13.29
CAD981691397	Hydro Rubber & Plastic, Inc.	1200 Francisco Street, Torrance, CA 90502	4.85
CAD047059811	Industrial Molding Corp.	2015 North 190th Street, Torrance, CA 90504	7.73
CAD010398622	International Light Metal Corp.	19200 South Western Avenue, Torrance, CA 90509	5617.53
CAD982470734	Iwaski Images of America	19330 Van Ness Avenue, Torrance, CA 90501	.22
CAD009588503	Lawson Enterprises Inc.	19500 South Normandie Avenue, Torrance, CA 90502	9.17
CAD982060699	Maritz Communications	1515 West 190th Street, Gardena, CA 90248	1.11
CAD982033250	Mazak Sales and Service West	1333 West 190th Street, Gardena, CA 90248	3.65
CAD982049546	Menardi Criswell	1201 West Francisco Street, Torrance, CA 90510	9.23
CAT000623470	Mobil Oil Corp.	20225 Van Ness, Torrance, CA 90509	47.19
CAD982048118	Mycom Corp.	19475 Gramercy Place, Torrance, CA 90501	2.71
CAD986665582	Northrop Corp. Aircraft Div.	20700 Denker Avenue, Los Angeles, CA	66.82
CAD000627463	Northrop Corp. Aircraft Div.	19200 South Western Avenue, Torrance, CA	7.27
CAD982475444	Opto Sensors Inc.	20775 South Western Avenue, Torrance, CA 90501	.76
CAD982053779	Pacific Environmental Management	777 West 190th Street, Gardena, CA	30.78
CAD981613557	Penske Truck Leasing	19046 South Figueroa Street, Carson, CA 90745	1.06
CAD008174661	Perma-Bilt Industries	19106 South Normandie Avenue, Torrance, CA 90502	26.50
CAD991624406	Publisher Phototype Inc.	19681 Pacific Gateway Drive, Torrance, Ca 90502	.40
CAD982023681	Pulse Instruments	1234 Francisco Street, Torrance, CA 90503	.66
CAD981390743	Quantrad Corporation	19900 South Normandie Avenue, Torrance, CA 90502	7.17
CAD048627516	R. R. Donnelley & Sons (Interweb)	19681 Pacific Gateway Drive, Torrance, CA 90502	364.32
CAD008247400	Redman Equipment & Mfg. Co.	19800 Normandie Avenue, Torrance, CA 90502	8.70
CAD981994809	Rollins Leasing Corp.	20425 South Hamilton Avenue, Torrance, CA 90502	11.92

Reference: State of California, Department of Health Services, Toxic Substances Control Division, 1989.

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TABLE 11 (continued)
HAZARDOUS WASTE GENERATORS WITHIN
1 MILE RADIUS OF MONTROSE PROPERTY
Page 2

EPA NUMBER	FACILITY NAME	ADDRESS	TONS
CAD008489023	Rubber Tech, Inc.	19115 South Hamilton Avenue, Gardena, CA 90247	2.72
CAD982030173	Sikkens Aerospace Finishers	20846 South Normandie Avenue, Torrance, CA 90502	230.40
CAD980888713	Tec, America, Inc.	19140 Van Ness Avenue, Torrance, CA 90509	.45
CAD043100106	Teledyne Linair Engineering	651 West Knox Street, Gardena, CA 90248	29.70
CAD046459905	Teledyne Sprague Engineering	19300 South Vermont Avenue, Gardena, CA 90248	25.49
CAD062095500	Three Bond of America Inc.	20815 Higgins Court, Torrance, CA 90501	44.09
CAD981664261	Toyota Motor Sales	19001 South Western Avenue, Torrance, CA 90509	9.86
CAT080013634	Tri-lite Mfg. Co., Inc.	19780 Pacific Gateway Drive, Torrance, CA 90502	5.67
CAC000157765	Cap Brothers Cont. Comp.	20308 Gramercy Place, Torrance, CA	.50
CAD981512998	Contract Applications Inc,	19001 South Western Avenue, Torrance, CA	1.60
CAC000093469	Exxon Station #7-3552	701 West Torrance Blvd., Torrance, CA	6.25
CAC000133701	Ferro Union Inc.	1000 West Francisco Street, Torrance, CA 90502	2.08
CAC000117989	Jackson National Life Ins.	20221 Hamilton Avenue, Torrance, CA	.21
CAD982513350	Maurices Inc.	19809 Pacific Gateway Drive, Torrance, CA	.58
CAC000110397	Perma Ceram	1861 Del Amo Blvd., Torrance, CA	1.76
CAC000039813	Sully Miller Contracting	20800 Normandie Avenue, Torrance, CA	5.00
CAD096018375	Teledyne Crittenden	741 West Knox Street, Torrance, CA	.22
CAC000136677	Universal Service & Supply Co.	20220 Hamilton Avenue, Torrance, CA	.33
CAC000127989	Normandie Associates	20920 Normandie Avenue, Torrance, CA	8.42

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Note: Appendix E contains waste category data by generator from the Tanner Report
Reference: State of California, Department of Health Services, Toxic Substances Control Division, 1989.

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TABLE 12

LANDFILLS IN THE SITE VICINITY

LOCATION NUMBER	SITE NAME	STREET ADDRESS	CITY	LEAD AGENCY
1	Adams Industries	2111 South Dolores Street	Carson	RWQCB
2	American Disposal, Inc. #1		Carson	RWQCB
3	American Disposal, Inc. #2		Gardena	RWQCB
4	American Standard, Inc. Torrance Disposal Site	360 Crenshaw Blvd.	Torrance	RWQCB
5	BKK Corporation	19200 South Main Street	Caron	RWQCB
6	Broadway-Main Company	19101 South Main Street	Carson	RWQCB
7	Brown Dump	19001 South Figueroa Street	Carson	RWQCB
8	Cal-Compact	20300 South Main Street	Carson	DHS
9	Columbia Steel Company	Cravens Ave. and Van Ness	Torrance	RWQCB
10	Cottler Dump	18802 South Broadway	Carson	
11	Edmiston Dump	189 and Figueroa	Carson	RWQCB
12	Gardena - 174th & Western	174th & Western	Gardena	RWQCB
13	Gardena City Dump	1214 West 170th Street	Gardena	RWQCB
14	Gardena Sumps	Southwest corner of Artesia & Normandie	Gardena	DHS
15	Gardena Valley Dump	South of 213th St., east of Dominguez Channel	Carson	RWQCB
16	Gardena Valley Number 1 & 2	101 West Torrance Blvd.	Carson	RWQCB
17	Gardena Valley Number 4	801 West Torrance Blvd.	Carson	RWQCB
18	Gardena Valley Number 5	100 West Torrance Blvd.	Carson	DHS
19	Gardena Valley Number 6	21107 South Chico Street	Carson	RWQCB
20	Guenser Park	178th & Western	Torrance	RWQCB
21	Hallerman, Martin	Figueroa at 405 Freeway	Carson	RWQCB
22	Hamilton Street Dump	18802 South Vermont Avenue	Gardena	RWQCB
23	Higgins Brick & Tile Co.	2200 West Artesia Blvd.	Torrance	RWQCB
24	Katz Dump - Carson	Broadway & Victoria	Carson	RWQCB
25	Koerner	406 West Griffith Street	Carson	RWQCB
26	Landfill Associates	2200 West Artesia Blvd.	Torrance	RWQCB
27	Los Angeles Co. Road Dept.	Artesia & Western	Gardena	RWQCB
28	Los Angeles Co. Road Dept.	182nd (Vermont & 110)	Carson	RWQCB
29	Los Angeles Co. Sanitation	18500 South Moneta Avenue	Carson	RWQCB
30	Mor-Glow Paint Co.	18317 South Main Street	Carson	RWQCB
31	Royal Blvd. Landfill	20350 South Royal Blvd.	Torrance	RWQCB
32	Shell Chemical	19500 South Broadway, 19500	Carson	
33	Southern California Disposal	186th & Vermont	Los Angeles	RWQCB
34	Southwest Conservation, Inc.	20201 South Main Street	Carson	RWQCB
35	Southwest Steel Rolling Mills	19100 South Figueroa	Carson	RWQCB
36	Southwest Steel Rolling Mills	19001 South Broadway	Carson	RWQCB
37	Torrance Municipal Dump	20466 Madrona Street	Torrance	DHS
38	U.S. Navy	Main & Figueroa	Carson	RWQCB
39	U.S. Steel Landfill	840 Van Ness Avenue	Torrance	RWQCB
40	Unknown	190th Street near Avalon	Carson	
41	Unknown	Avalon & 213 Street	Carson	
42	Vermont & 183rd Street	183rd & Vermont	Carson	
43	Vermont Avenue and Knox Street Dump		L.A. County	RWQCB
44	Wergin Dump	20400 South Main Street	Carson	RWQCB

References: U. S. Environmental Protection Agency, 1980
[illegible] California Department of Health Services,
[illegible] Toxic Substances Control Division, Long Beach
[illegible] State of California, California Regional Water Quality Control Board,
[illegible] Los Angeles Region 4

BOE-C6-0185391

TABLE 13

UNDERGROUND STORAGE TANKS, LACDPW

LOCATION NUMBER	OWNER	STREET ADDRESS	FILE NO.	PERMIT NO.
1	Hertz-Penske	19646 South Figueroa Street	002685	0000003A
1	Hertz-Penske	19646 South Figueroa Street	002685	00005133
2	Pepsi-Cola Bottling Company	19700 South Figueroa Street	005999	00003778
2	Pepsi-Cola Bottling Company	19700 South Figueroa Street	005999	0003537B
4	Shell Development Company	19821 South Figueroa Street	000077	TEMP
5	Shell Service Station	20748 South Figueroa Street	001114	TEMP
3	Montgomery Ward	19751 South Figueroa Street	006726	00001889
3	Montgomery Ward	19751 South Figueroa Street	006726	0002005B
6	Crestline Mills Carpet Company	1200 West Francisco Street	006194	TEMP
6	Crestline MIls Carpet Company	1200 West Francisco Street	006194	0011898A
7	Menardi-Southern	1201 West Francisco Street	006084	TEMP
7	Menardi-Southern	1201 West Francisco Street	006084	0006198B
9	California Highway Patrol	19700 South Hamilton Avenue	005610	00002238
9	California Highway Patrol	19700 South Hamilton Avenue	005610	0000929A
9	California Highway Patrol	19700 South Hamilton Avenue	005610	0003013B
8	Commercial Engineering Sales & SE	19400 South Hamilton Avenue	001188	TEMP
10	Muscle Dynamics, Inc.	20100 Hamilton Avenue	008881	TEMP
11	West Industrial Prop.	20130 South Hamilton Avenue	000403	TEMP
12	Teledyne-Crittenden	711 Knox Avenue	013281	00004978
13	Exxon Company, USA SS#73944	18526 South Normandie Avenue	012683	00004504
15	Greene's Ready Mixed Concrete	19030 South Normandie Avenue	001188	00000750
15	Greene's Ready Mixed Concrete	19030 South Normandie Avenue	001188	0002329A
15	Greene's Ready Mixed Concrete	19030 South Normandie Avenue	001188	0006300B
16	Perma-Bilt Steel Products	19106 South Normandie Avenue	006339	TEMP
14	Texaco Refining & Marketing	19008 South Normandie Avenue	005640	00000416
14	Texaco Refining & Marketing	19008 South Normandie Avenue	005640	0001949A
14	Texaco Refining & Marketing	19008 South Normandie Avenue	005640	0003009B
17	Armco Dump	20950 South Royal Blvd.	004885	TEMP

See figure 23 for location of LACDPW underground tanks
Reference: Los Angeles County Department of Public Works, 1989

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BOE-C6-0185392

10674

TABLE 13 (continued)
UNDERGROUND STORAGE TANKS, LACDPW
Page 2

LOCATION NUMBER	OWNER	STREET ADDRESS	FILE NO.	PERMIT NO.
18	Alpine Village, Inc.	833 West Torrance Blvd.	008607	TEMP
21	Chevron Service Station	511 Torrance Blvd.	010840	00002277
21	Chevron Service Station	511 Torrance Blvd.	010840	0003975B
20	Exxon Service Station #3552	701 West Torrance Blvd.	002969	00003874
20	Exxon Service Station #3552	701 West Torrance Blvd.	002969	0001599A
20	Exxon Service Station #3552	701 West Torrance Blvd.	002969	0001804A
20	Exxon Service Station #3552	701 West Torrance Blvd.	002969	0004440B
20	Exxon Service Station #3552	701 West Torrance Blvd.	002969	0004919B
19	Gardena Valley Dump #4	801 West Torrance Blvd.	004678	TEMP
25	Amelco Electric	19208 South Vermont Avenue	012902	00004674
23	Data Components 1	19120 South Vermont Avenue	006560	TEMP
27	Gardena Valley Dump #3	20800 South Vermont Avenue	004433	TEMP
24	Klinger Company	19122 South Vermont Avenue	005431	TEMP
22	Maruiso Kaisan USA, Inc.	19100 South Vermont Avenue	008514	TEMP
28	Mobil Oil Corporation SS 11MAP	20802 South Vermont Avenue	005290	TEMP
26	Teledyne Sprague	19300 South Vermont Avenue	008902	0000158A
26	Teledyne Sprague	19300 South Vermont Avenue	000902	00005105
26	Teledyne Sprague	19300 South Vermont Avenue	000902	0000873B
26	Teledyne Sprague	19300 South Vermont Avenue	000902	0000908B
30	Chevron USA SS#931	2623 West 190th Street	009869	00001198
30	Chevron USA SS#931	2623 West 190th Street	009869	0001519B
29	Lynn Properties-Mobil 11D8M	2701 West 190th Street	012920	00004894
29	Lynn Properties-Mobil 11D8M	2701 West 190th Street	012920	0004539B

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See figure 23 for location of LACDPW underground tanks
Reference: Los Angeles County Department of Public Works, 1989

BOE-C6-0185393

TABLE 14

FILES OBTAINED FROM PUBLIC AGENCIES

STATE OF CALIFORNIA, DEPARTMENT OF HEALTH SERVICES,
TOXICS SUBSTANCES CONTROL DIVISION, LONG BEACH

1. American Honda Company
2. Cal Compact
3. D&M Machine Works
4. Del Amo Hazardous Waste Site
5. Dowell Division of Dow Chemical
6. Eden National Steel
7. Gardena Sumps
8. Gardena Valley Landfills 1,2, & 5
9. Golden Eagle Refining Company
10. Liquid Chemical Corporation
11. Mobil Oil Corporation
12. Reynolds Metals Company
13. Royal Boulevard Class III Disposal Site
14. Venus Laboratories
15. Victoria Golf Course

STATE OF CALIFORNIA, REGIONAL WATER QUALITY CONTROL BOARD,
MONTEREY PARK

1. ARCO S/S #1235
2. Bee Chemical
3. Carson Estates
4. Douglas Aircraft Company (McDonnell-Douglas Corporation)
5. Dow Chemical
6. Exlixir Industries
7. Honeywell, Inc.
8. Pacific Smelting
9. Sears Roebuck
10. Shell S/S Avalon & Del Amo
11. Terry's S/S
12. UNOCAL S/S #5131

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS,
ALHAMBRA

1. AKZO Coatings, Inc.
2. Amoco Chemical Corporation
3. Avanti Management
4. Cadillac Fairview, Inc. (Tylan Corporation)
5. Computer Power System Corporation
6. Deepwater, Inc.
7. Globe Illumination
8. Luseaux Laboratories

Note: Appendix F contains summaries of files obtained from public agencies for sites within a 1-mile radius of the Montrose Property

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BOE-C6-0185394

TABLE 14 (continued)
FILES OBTAINED FROM PUBLIC AGENCIES
Page 2

9. Maruiso Kaisan USA, Inc.
10. Mobil Station #11-MAB
11. Rubber Teck, Inc.
12. Southern California Racing Fuel

TORRANCE FIRE DEPARTMENT, TORRANCE, CALIFORNIA

1. ARCO S/S #1008
2. Mobil S/S #17ECP
3. Rubbercraft
4. Toyota Motor Sales
5. UNOCAL S/S #6075

LOS ANGELES COUNTY DEPARTMENT OF HEALTH SERVICES

1. Cadillac Fairview, Inc. (Tylan Corporation)
2. Golden Eagle Refining Company
3. Rubber Teck, Inc.
4. Teledyne Sprague Engineering
5. Western Concrete Structure

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Note: Appendix F contains summaries of files obtained from public agencies for sites within a 1-mile radius of the Montrose Property

BOE-C6-0185395

TABLE 15

UNDERGROUND PIPLINE OWNERS/OPERATORS NEAR MONTROSE PROPERTY

OWNED/OPERATED BY	PIPELINE DESCRIPTION	PIPELINE CONTACT	TELEPHONE NUMBER
Chevron Pipeline Company	20-inch product line	Fred Adams Jim Foster	213 694 7659 213 694 7769
4 Corners Pipeline Company	Crude Oil line	Thomas Binkes Joann Craig	213 428 9224
GATX Tank Storage Terminal Corp.	Jet Fuel line	Dave Kingston	213 830 5666
Southern Pacific Pipelines	12-inch product line	John Goss	714 877 2373
Mobil Oil Corp. West Coast Pipeline	Product lines and Crude oil lines	John Sisk	213 212 2921
Dow Chemical	4-inch Styrene line	Tom Rejovich	213 533 5234

DRAFT

Source: Hargis + Associates, Inc., 1989

BOE-C6-0185396

ILLUSTRATIONS

BOE-C6-0185397

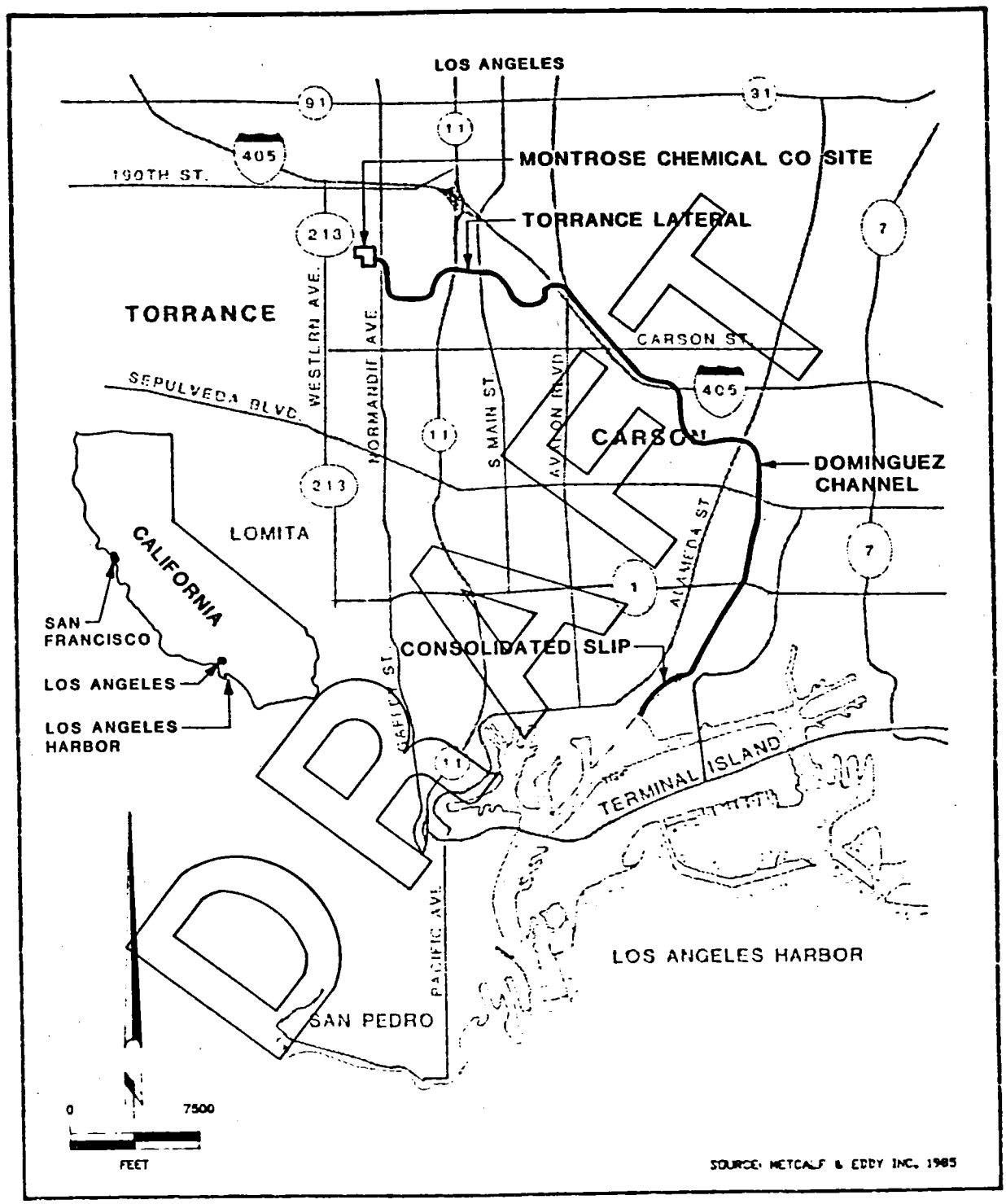
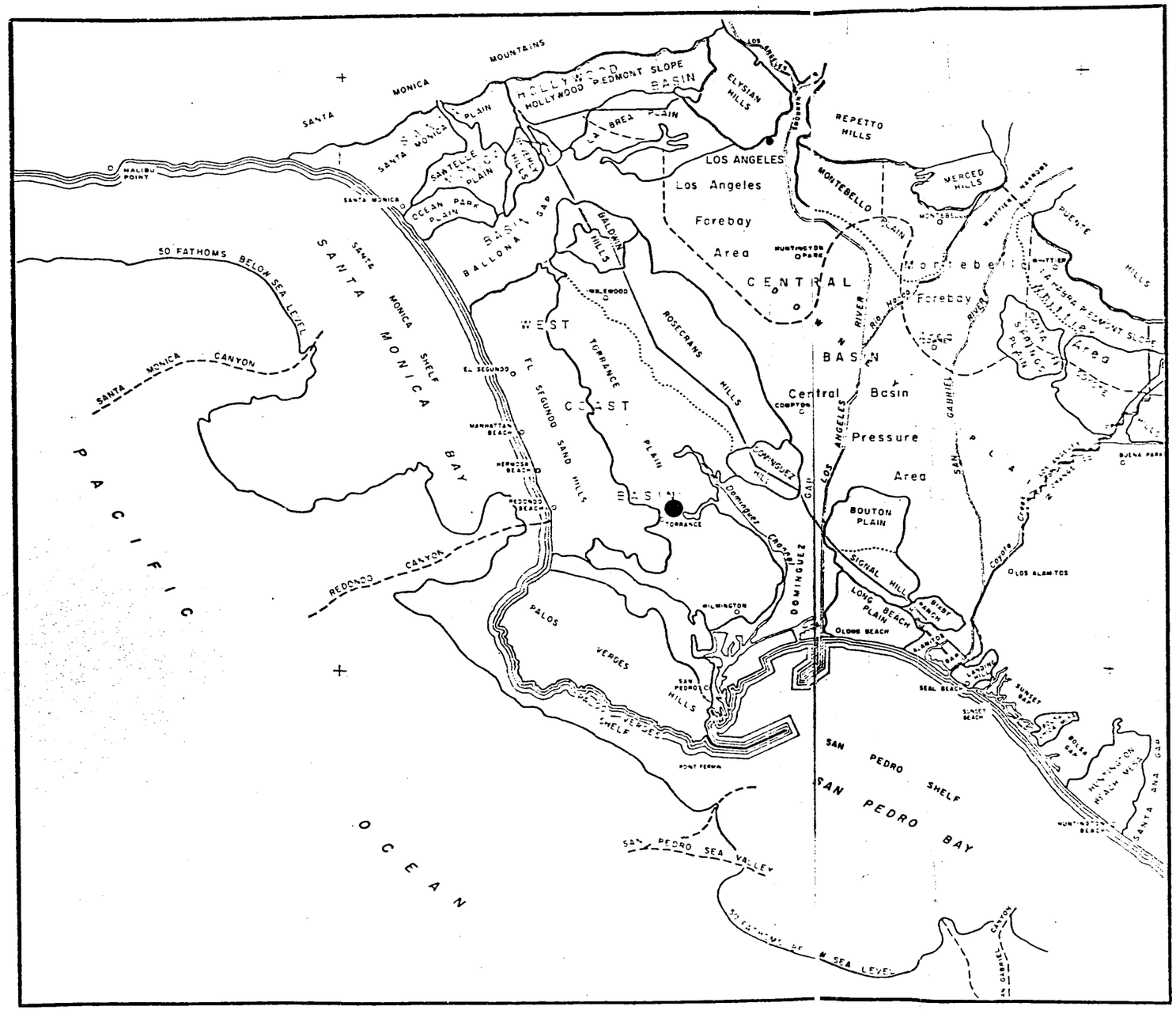


FIGURE 1. MONTROSE PROPERTY AND VICINITY

HARGIS + ASSOCIATES, INC.

BOE-C6-0185398



EXPLANATION

MONTROSE PROPERTY

BOUNDARY BETWEEN PHYSIOGRAPHIC FEATURES (DOTTED WHERE APPROXIMATE OR POORLY DEFINED)

BOUNDARY OF GROUND WATER BASIN

BOUNDARY OF FOREBAY AND WHITTIER AREA

AXIS OF SUBMARINE CANYON

BOUNDARY BETWEEN FOREBAY AND PRESSURE AREA FROM BULLETIN 45 (CALIF. D.W.R. 1934)

DRAFT

SOURCE: STATE OF CALIFORNIA, DEPARTMENT OF WATER RESOURCES, 1961

0 2 4
miles

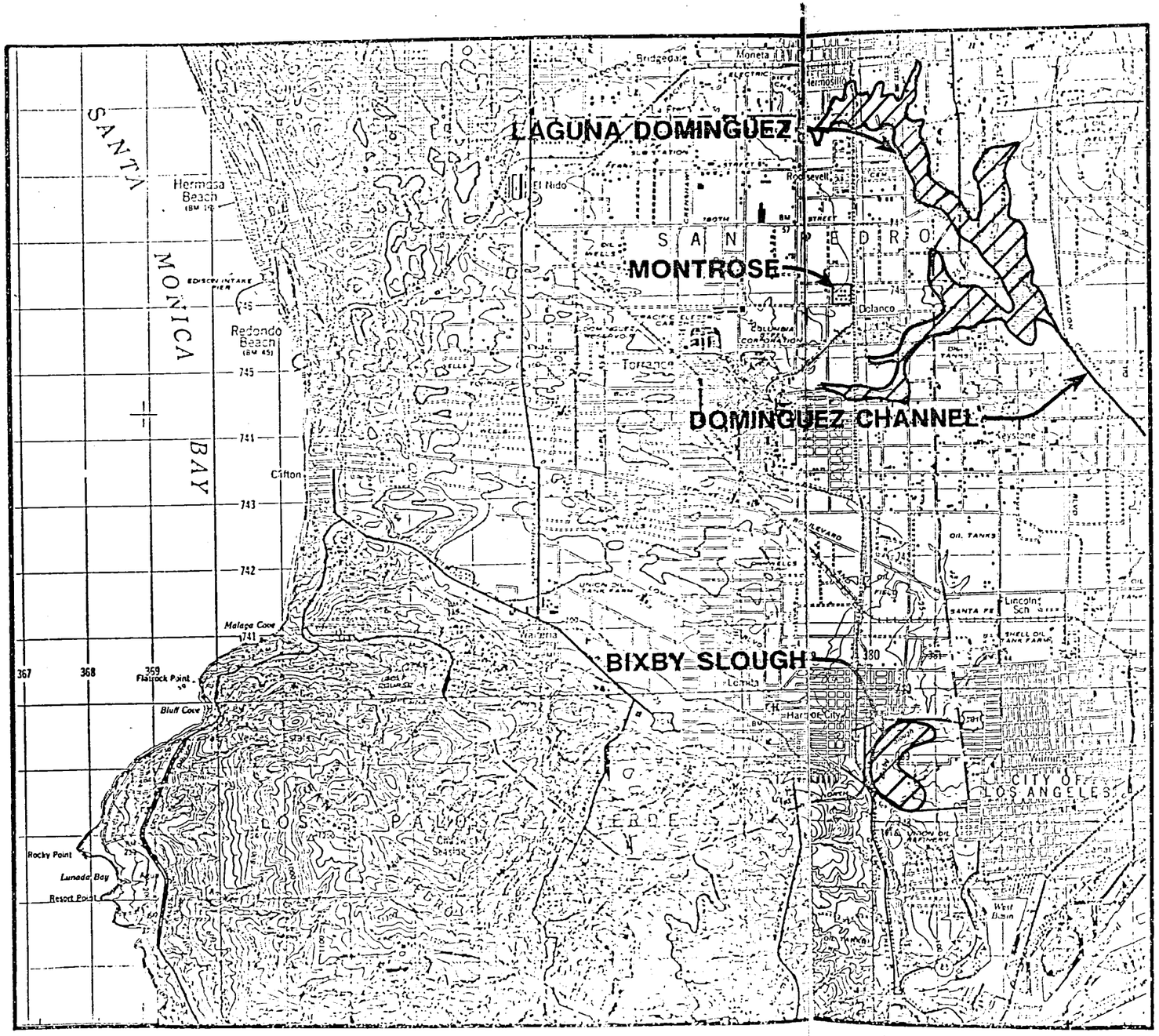
MONTROSE SITE
LOS ANGELES, CALIFORNIA

PHYSIOGRAPHY OF THE SITE VICINITY

HARGIS + ASSOCIATES, INC.

4781

BOE-C6-0185399



EXPLANATION

☐ MONTROSE PROPERTY

DRAFT

SOURCE: A.M.S. TOPOGRAPHIC MAP, REDONDO, CA, 1948

0 MILES

MONTROSE SITE
LOS ANGELES, CALIFORNIA

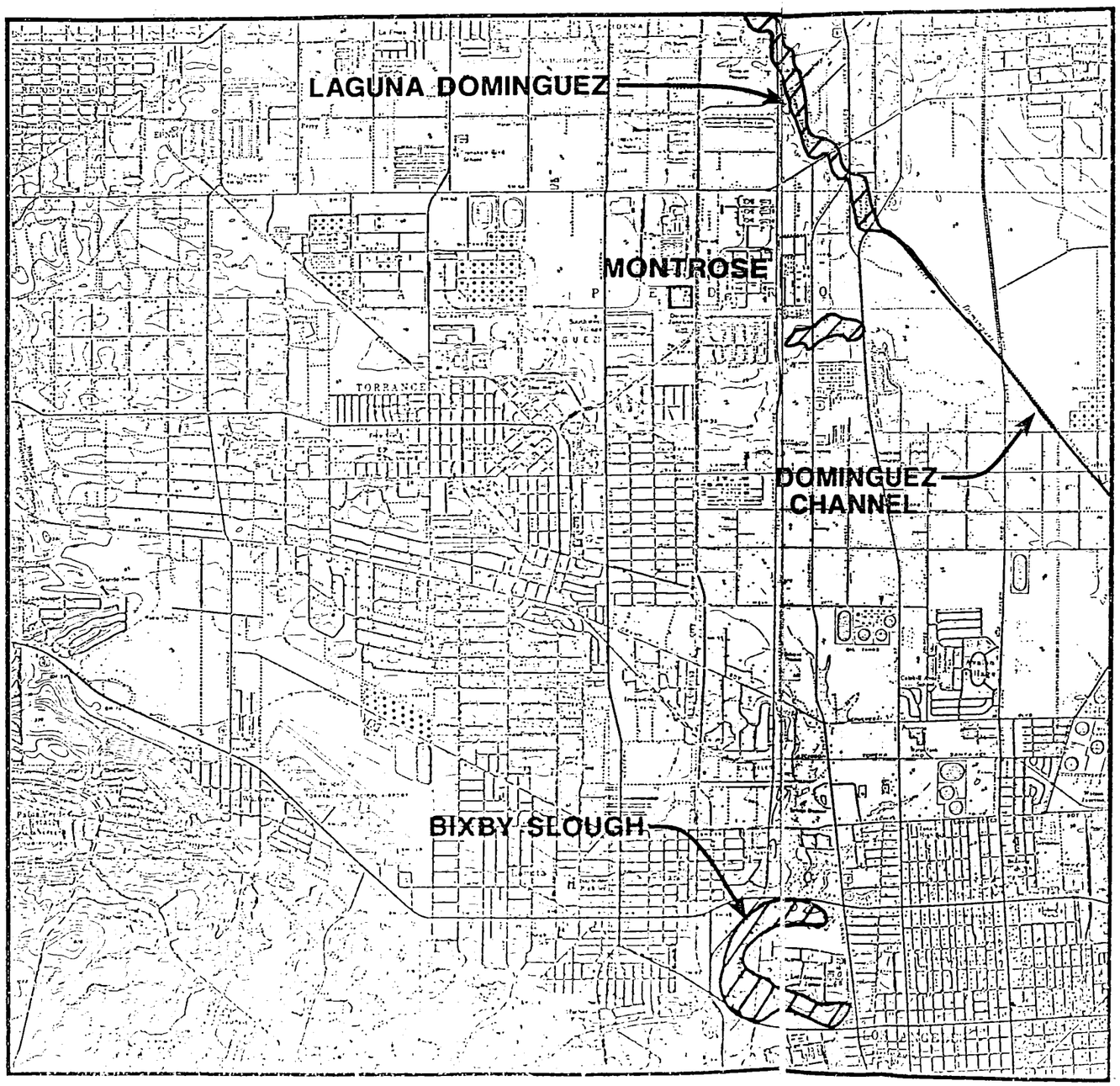
HISTORICAL SURFACE WATER FEATURES, 1948

HARGIS + ASSOCIATES, INC.

FIGURE 3

PREPARED BY _____ REVIEWED BY _____

4800



EXPLANATION

☐ MONTROSE PROPERTY

DRAFT

SOURCE: U.S.G.S. TOPOGRAPHIC MAP, TORRANCE, CA, 1951

0 1
MILES

MONTROSE SITE
LOS ANGELES, CALIFORNIA

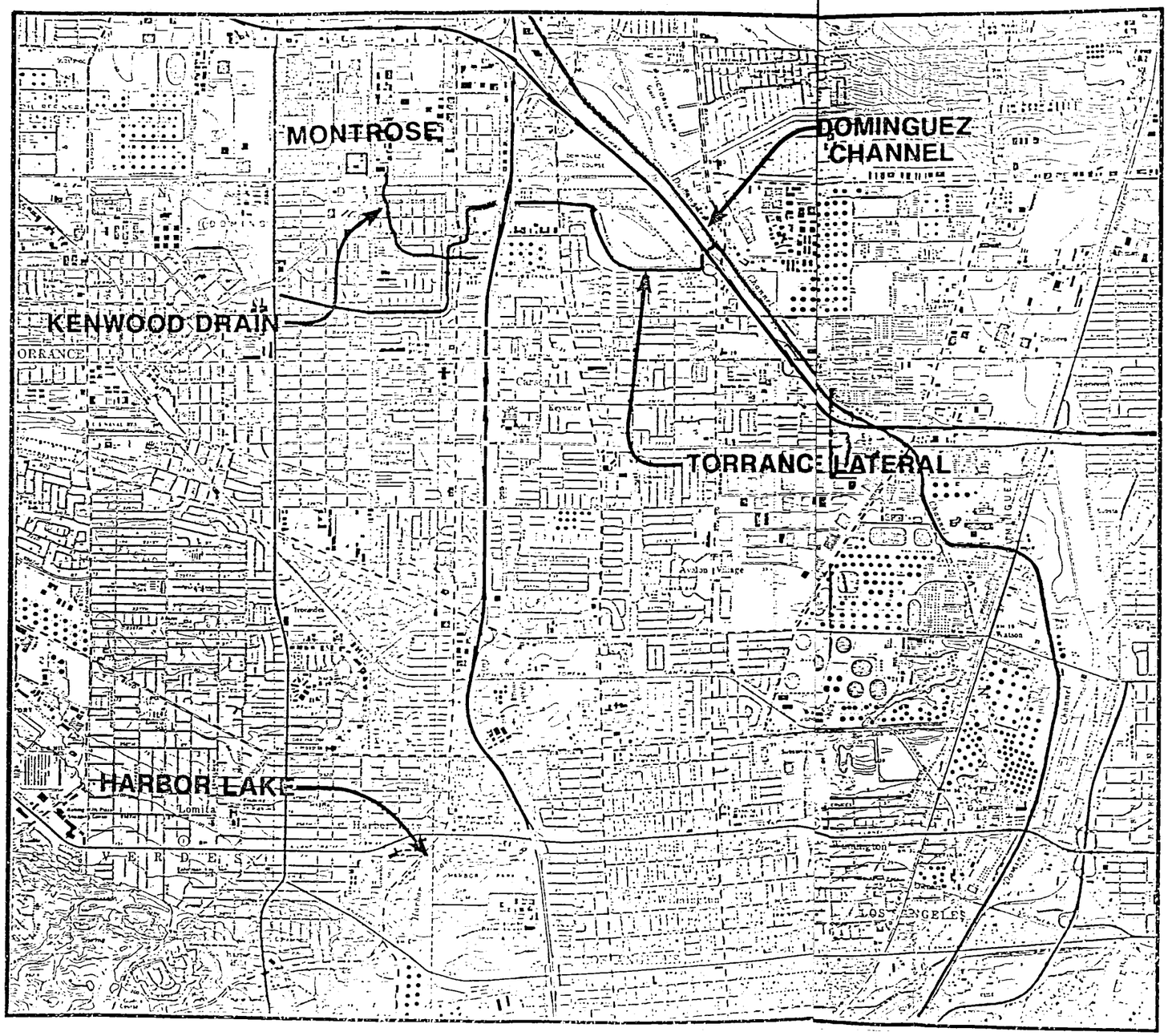
HISTORICAL SURFACE WATER FEATURES, 1951

HARGIS + ASSOCIATES, INC

FIGURE 4

PREPARED BY _____ REVIEWED BY _____

480 21

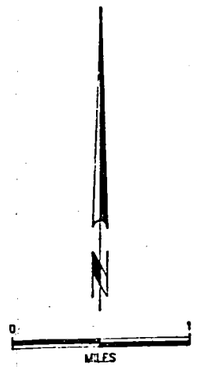


EXPLANATION

MONTROSE PROPERTY

DRAFT

SOURCE: U.S.G.S TOPOGRAPHIC MAP, TORRANCE, CA, 1981



MONTROSE SITE
LOS ANGELES, CALIFORNIA

PRESENT SURFACE WATER FEATURES

HARGIS + ASSOCIATES, INC.

FIGURE 5

PREPARED BY

REVIEWED BY

4807

BOE-C6-0185402

4805

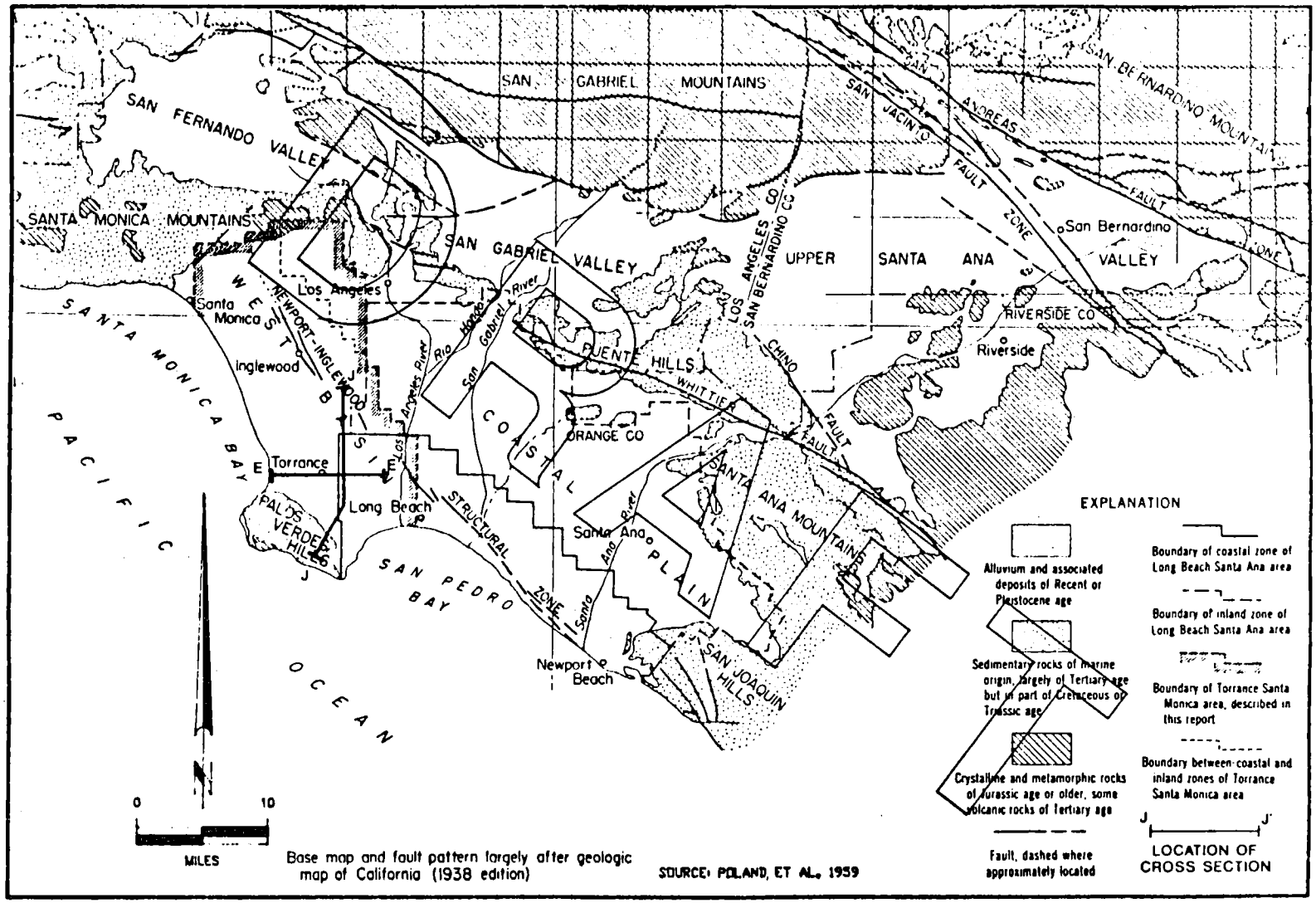


FIGURE 6. GENERAL GEOLOGY OF THE SITE VICINITY

HARGIS + ASSOCIATES, INC.

BOE-C6-0185403

SYSTEM	SERIES	FORMATION	LITHOLOGY	AQUIFER AND AQUICLUDE	MAX. THICKNESS (FEET)	PREVIOUS FORMATION NAMES*	PREVIOUS AQUIFER NAMES*
QUATERNARY	RECENT	ACTIVE DUNE SAND		SEMIPERCHED	60	ALLUVIUM	SEMIPERCHED†
		ALLUVIUM		BELLFLOWER AQUICLUDE	140		
				GASPUR	120		GASPUR†
				BALLONA	40		"50 FOOT GRAVEL"
	UPPER PLEISTOCENE	OLDER DUNE SAND		SEMIPERCHED		TERRACE COVER	
				BELLFLOWER AQUICLUDE	200	PALOS VERDES SAND	SEMIPERCHED†
		LAKEWOOD FORMATION		EXPOSITION	140	UNNAMED UPPER PLEISTOCENE	
				ARTESIA			
				GARDENA	160		GARDENA†
				GAGE	160		"200 FOOT SAND"
		UNCONFORMITY				LOCAL UNCONFORMITY	
	LOWER PLEISTOCENE	SAN PEDRO FORMATION		HOLLYDALE	100	SAN PEDRO FORMATION	
				JEFFERSON	140		
				LYNWOOD	200		"400 FOOT GRAVEL"
				SILVERADO	500		SILVERADO †
				SUNNYSIDE	500		
		LOCAL		UNCONFORMITY			
TERTIARY	UPPER PLIOCENE	PICO FORMATION		UNDIFFERENTIATED		PICO FORMATION	

EXPLANATION

- GRAVEL AND SAND
- SAND
- SILTY OR SANDY CLAY
- CLAY OR SHALE

*DESIGNATIONS AND TERMS UTILIZED IN REPORT OF REFEREE DATED JUNE 1952 PREPARED BY THE STATE ENGINEER COVERING THE WEST COAST BASIN

†DESIGNATED AS "WATER BEARING ZONES" IN ABOVE NOTED REPORT OF REFEREE

DRAFT

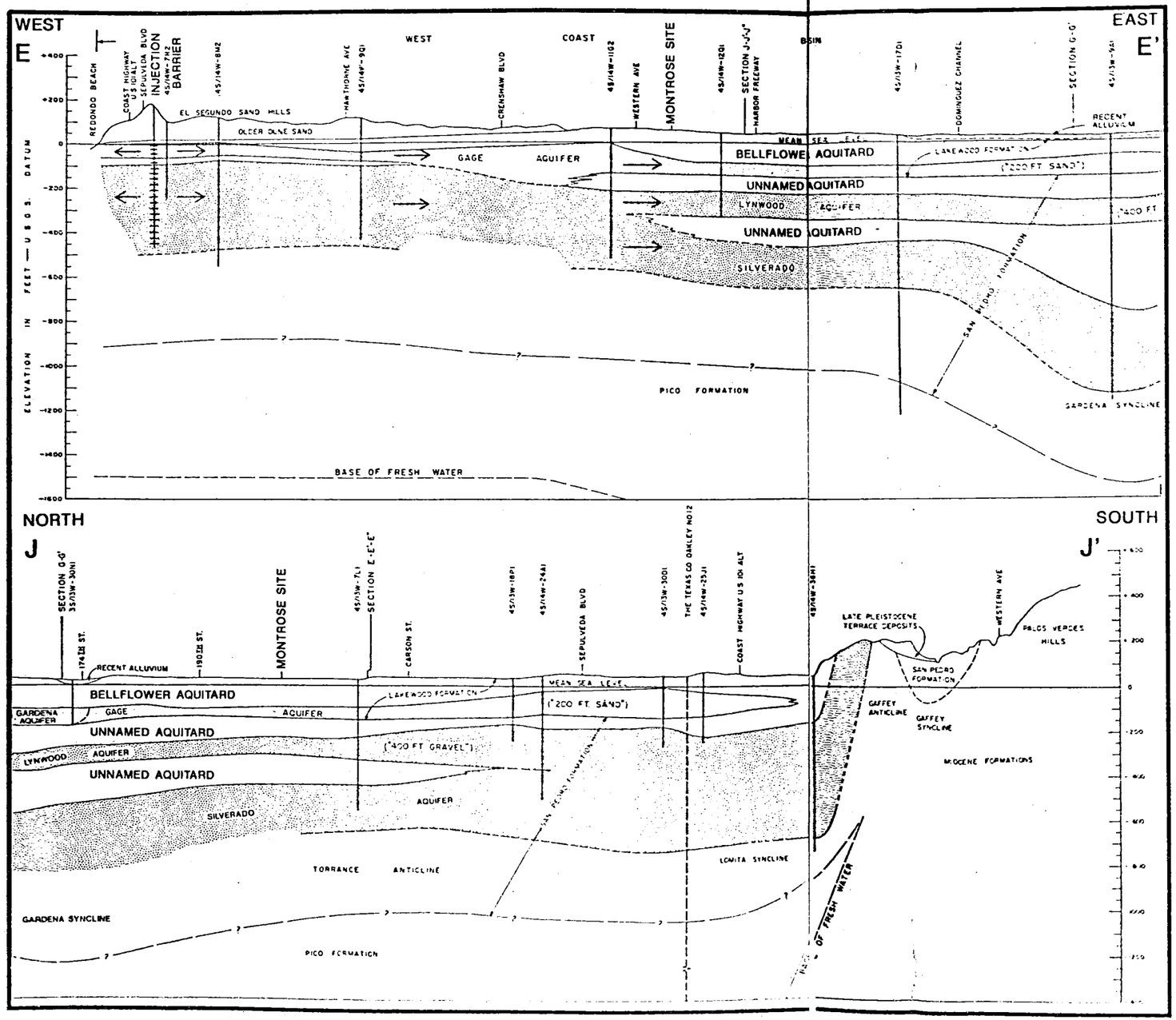
SOURCE: STATE OF CALIFORNIA, DEPARTMENT OF WATER RESOURCES, 1961

MONTROSE SITE
LOS ANGELES, CALIFORNIA

GENERALIZED STRATIGRAPHIC COLUMN COASTAL PLAIN

HARGIS + ASSOCIATES, INC.

BOE-C6-0185404



EXPLANATION

- AQUITARDS AND DEEPER UNDIFFERENTIATED FORMATIONS
- AQUIFERS IN RECENT ALLUVIUM (INCLUDES THE GASPUR AND BALLONA AQUIFERS)
- AQUIFERS IN LAKEWOOD FORMATION (INCLUDES THE ARTESIA, EXPOSITION, GAGE, AND GARDENA AQUIFERS)
- AQUIFERS IN SAN PEDRO FORMATION (INCLUDES THE HOLLYDALE, JEFFERSON, LYNWOOD, SILVERADO, AND SUNNYSIDE AQUIFERS)
- WATER WELLS
- OIL WELLS
- FAULTS

* BOUNDARY BETWEEN FOREBAY AND PRESSURE AREA AS SHOWN ON PLATE 2 OF THIS REPORT

NOTE: LOCATIONS OF SECTIONS ARE SHOWN ON FIGURE 6

→ INDICATES APPROXIMATE DIRECTION OF GROUNDWATER FLOW

ADAPTED FROM: STATE OF CALIFORNIA, DEPARTMENT OF WATER RESOURCES, 1961.

DRAFT

0 5000 10000
HORIZONTAL SCALE OF FEET

MONTROSE SITE
LOS ANGELES, CALIFORNIA

HYDROGEOLOGIC CROSS SECTION OF THE SITE VICINITY

HARGIS + ASSOCIATES, INC.

BULLETIN 104 1961

FIGURE 8

PREPARED BY _____ REVIEWED BY _____

BOE-C6-0185405

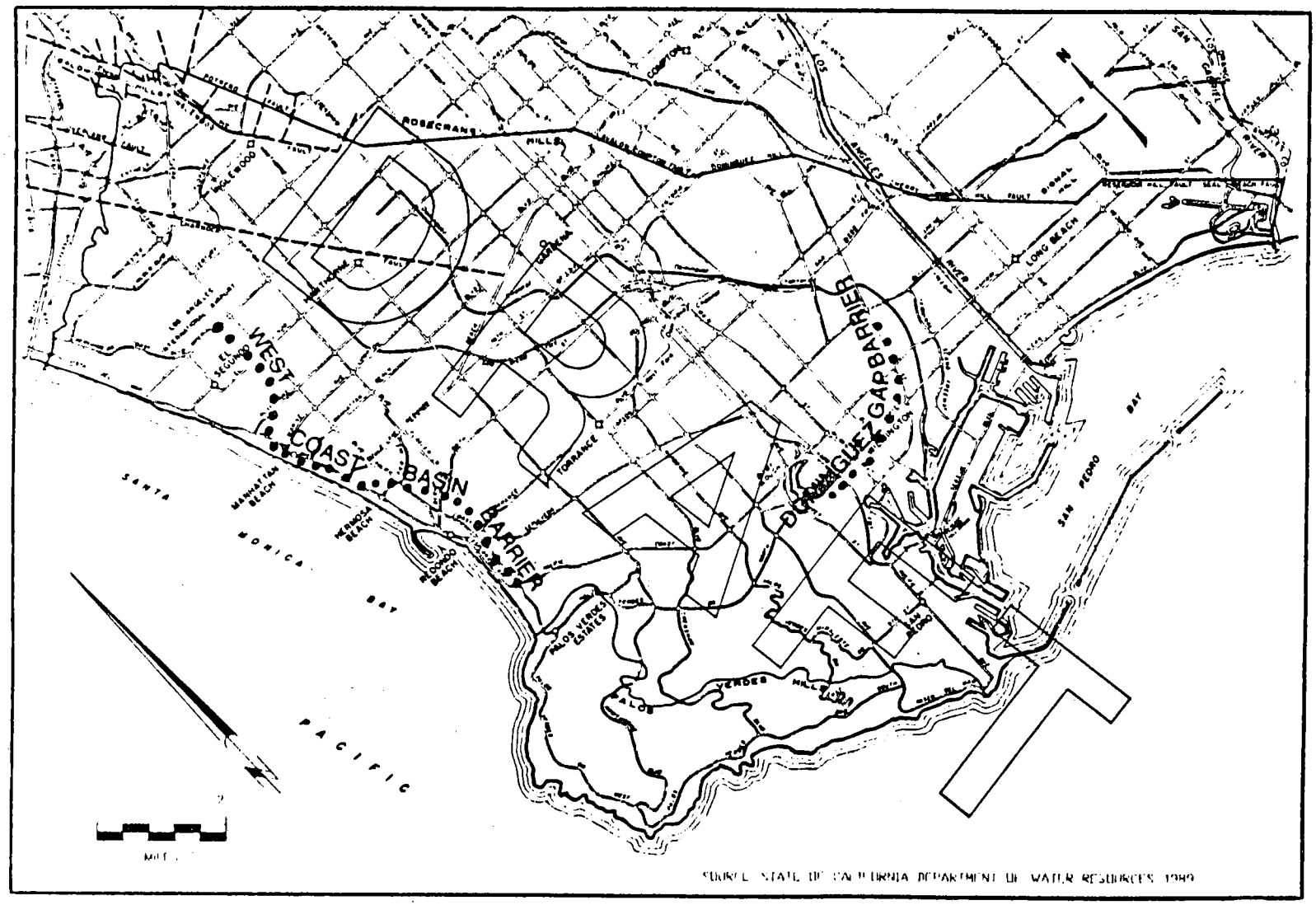
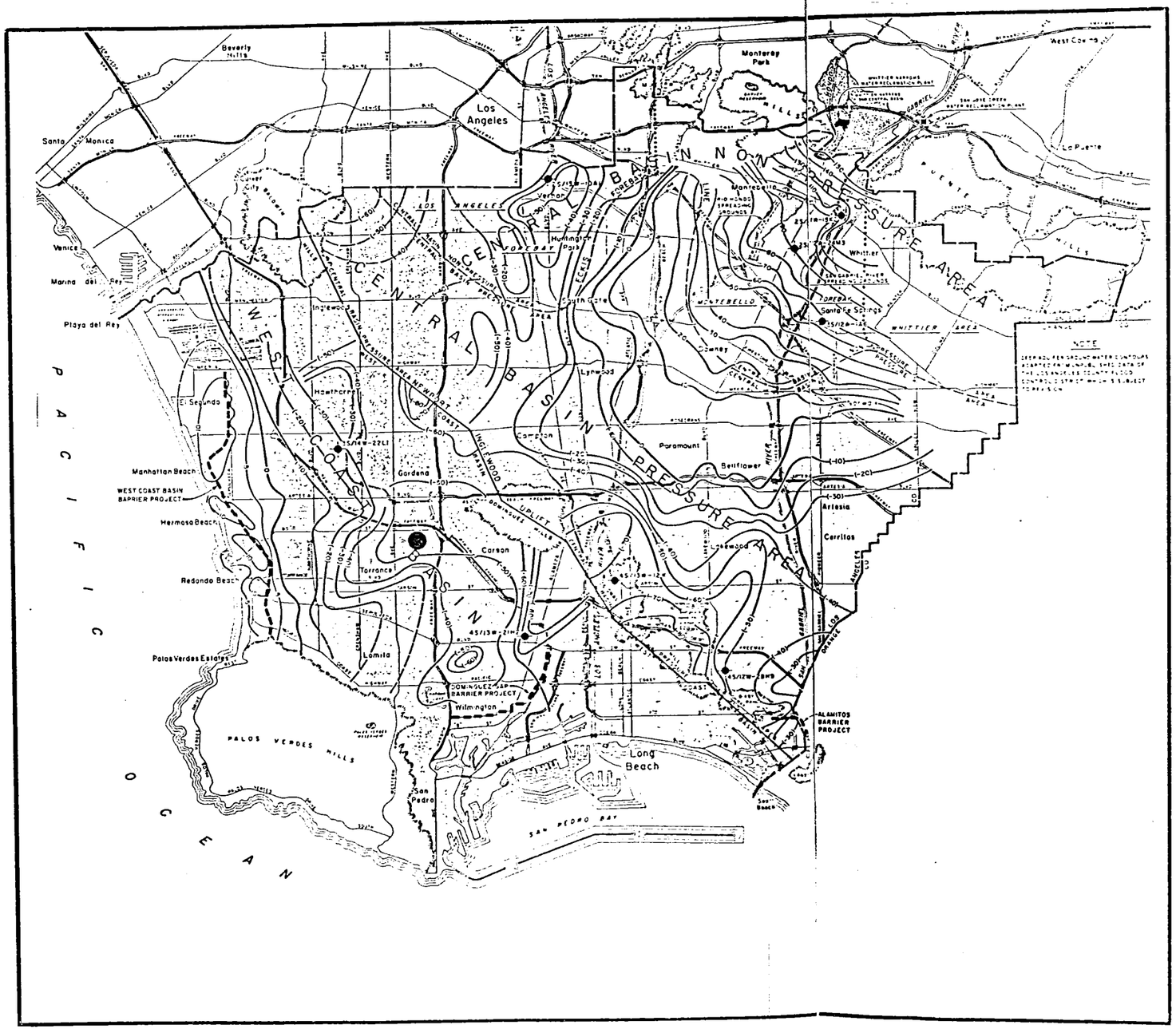


FIGURE 9 WEST COAST BASIN AND DOMINGUEZ GAP BARRIER PROJECTS

HARGIS + ASSOCIATES, INC.

BOE-C6-0185406



EXPLANATION

- MONTROSE PROPERTY
- BOUNDARY OF CENTRAL AND WEST BASIN WATER REPLENISHMENT DISTRICT.
- 45/13W-21H2 KEY WELLS.
- EXISTING BARRIER FACILITIES.
- PROPOSED BARRIER FACILITIES.
- LINES OF EQUAL GROUND WATER ELEVATIONS — PRINCIPAL AQUIFER (INTERPOLATED BETWEEN WELLS)
- SAME AS ABOVE — LOCATION APPROXIMATE.
- AREA IN WHICH ELEVATIONS OF GROUND WATER IN PRINCIPAL AQUIFER IS BELOW SEA LEVEL.

NOTE

DEEP AQUIFER GROUND WATER CONTOURS ADAPTED FROM UNPUBLISHED DATA OF THE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT, WHICH IS SUBJECT TO REVISION

SOURCE: BOOKMAN & EDMONSTON ENGINEERING, INC., 1989

WATER LEVEL DATA COLLECTED NOVEMBER 1988

DRAFT

0 3 6
MILES

MONTROSE SITE
TORRANCE, CALIFORNIA

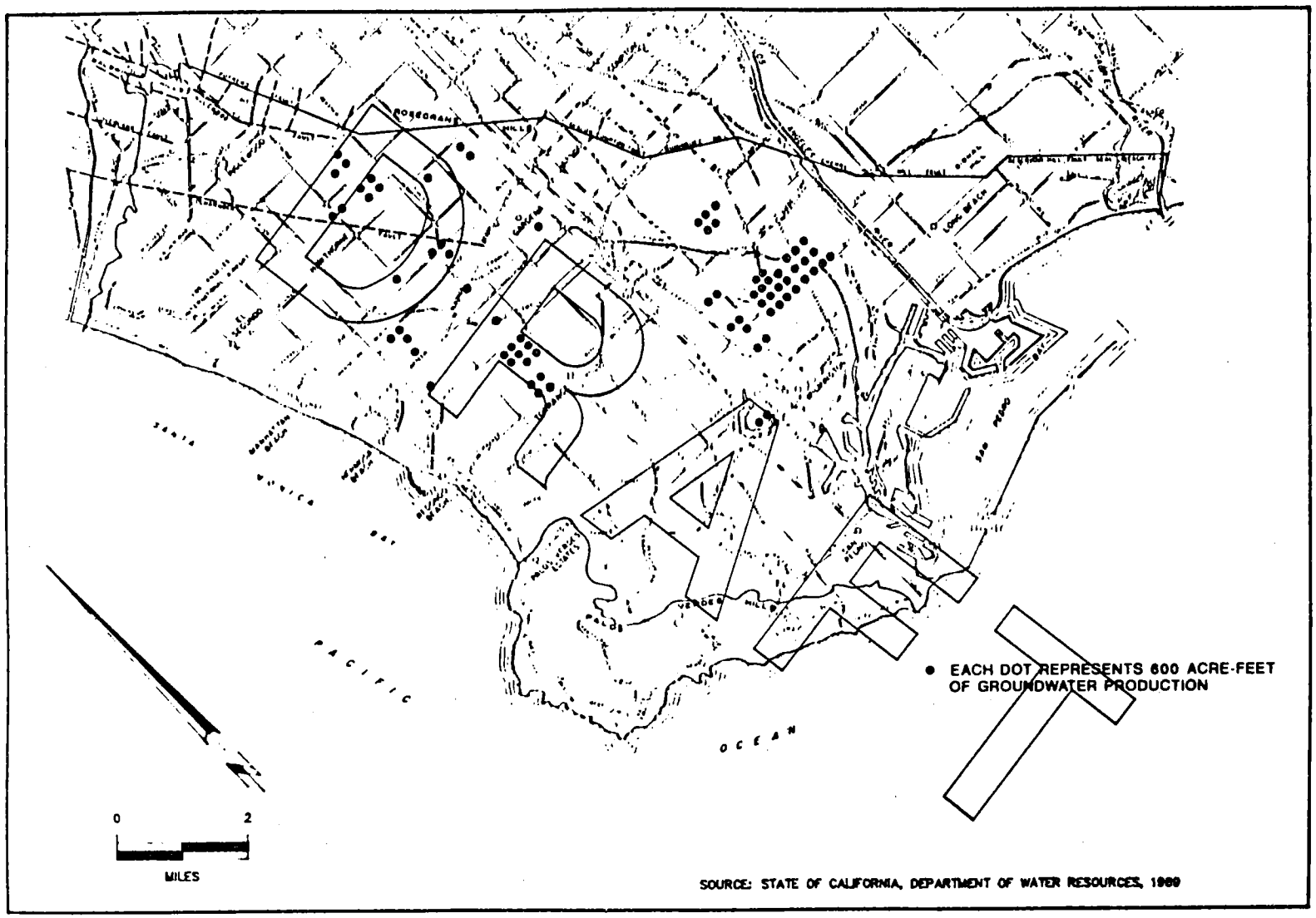
REGIONAL WATER LEVEL ELEVATIONS SILVERADO AQUIFER

HARGIS + ASSOCIATES, INC.

FIGURE 10

PREPARED BY _____ REVIEWED BY _____

BOE-C6-0185407

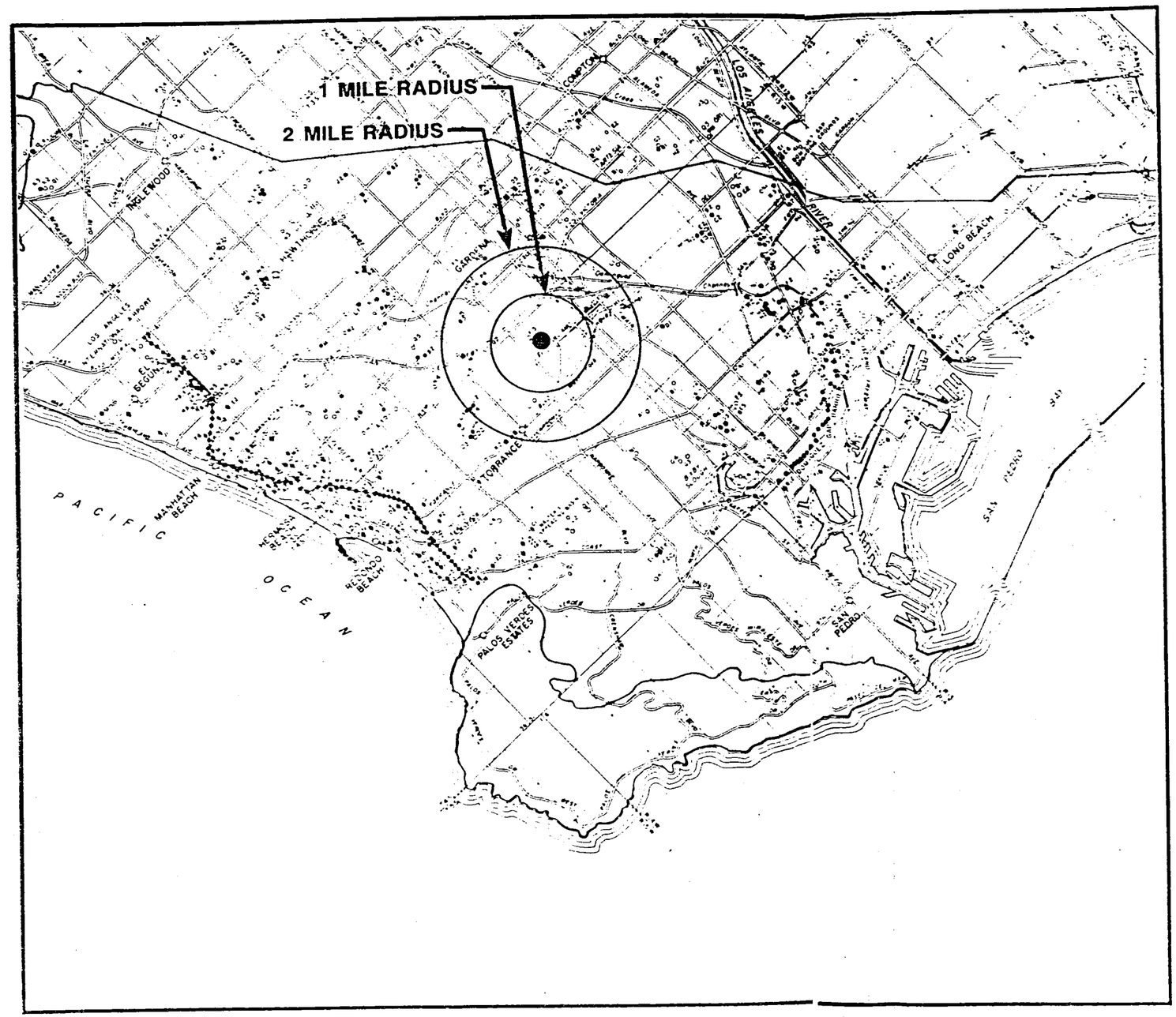


DOC No.

FIGURE 11. PUMPING CENTERS WEST COAST BASIN

HARGIS + ASSOCIATES, INC.

BOE-C6-0185408



EXPLANATION

- MONTROSE PROPERTY
- BASIN BOUNDARY
- ACTIVE WELLS OF PARTIES
- INACTIVE WELLS OF PARTIES
- ACTIVE WELLS OF NONPARTIES
- INACTIVE WELLS ON WHICH CONTINUOUS RECORDERS MEASURING WATER LEVELS ARE MAINTAINED BY D.W.R.
- INACTIVE WELLS ON WHICH CONTINUOUS RECORDERS MEASURING WATER LEVELS ARE MAINTAINED BY PARTIES
- LOS ANGELES COUNTY FLOOD CONTROL DISTRICT OBSERVATION WELLS
- LINE OF INJECTION WELLS
- SPREADING GROUNDS

SOURCE: STATE OF CALIFORNIA, DEPARTMENT OF WATER RESOURCES, 1989.

DRAFT

0 2 4
MILES

MONTROSE SITE
LOS ANGELES, CALIFORNIA

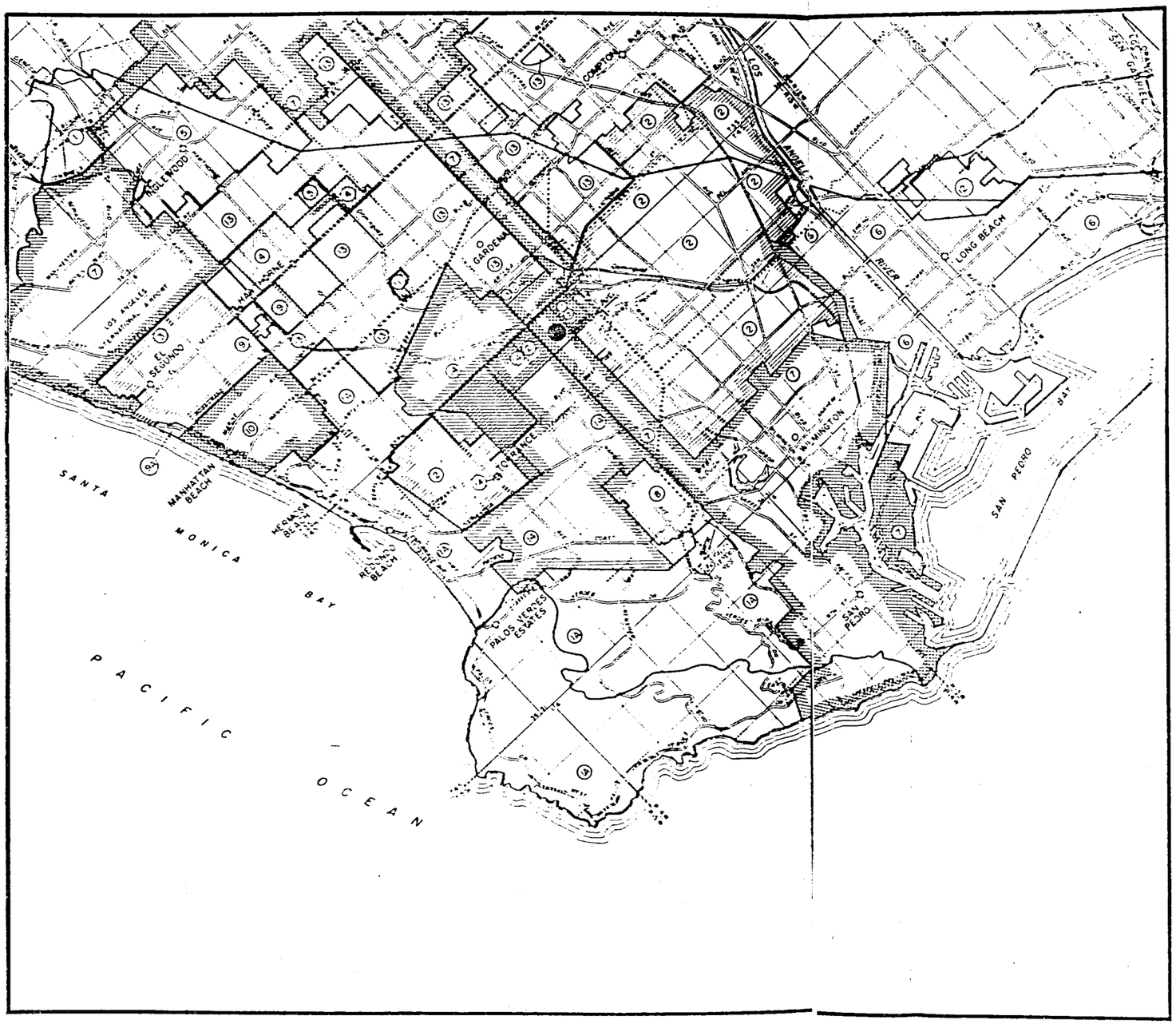
WELLS WITHIN THE WEST COAST BASIN

HARDIS ASSOCIATES

FIGURE 12

PREPARED BY ____ REVIEWED BY ____ DOC NO

BOE-C6-0185409



EXPLANATION

● MONTROSE PROPERTY

..... DISTRIBUTION SYSTEM OF THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

——— BASIN BOUNDARY

NOTE: SEE TABLE 1 FOR LIST OF WATER (SERVICE AGENCIES) IN THE SITE VICINITY

SOURCE: STATE OF CALIFORNIA, DEPARTMENT OF WATER RESOURCES, 1989

DRAFT

0 2 4
MILES

MONTROSE SITE
LOS ANGELES, CALIFORNIA

WATER SEVICE AREAS SITE VICINITY

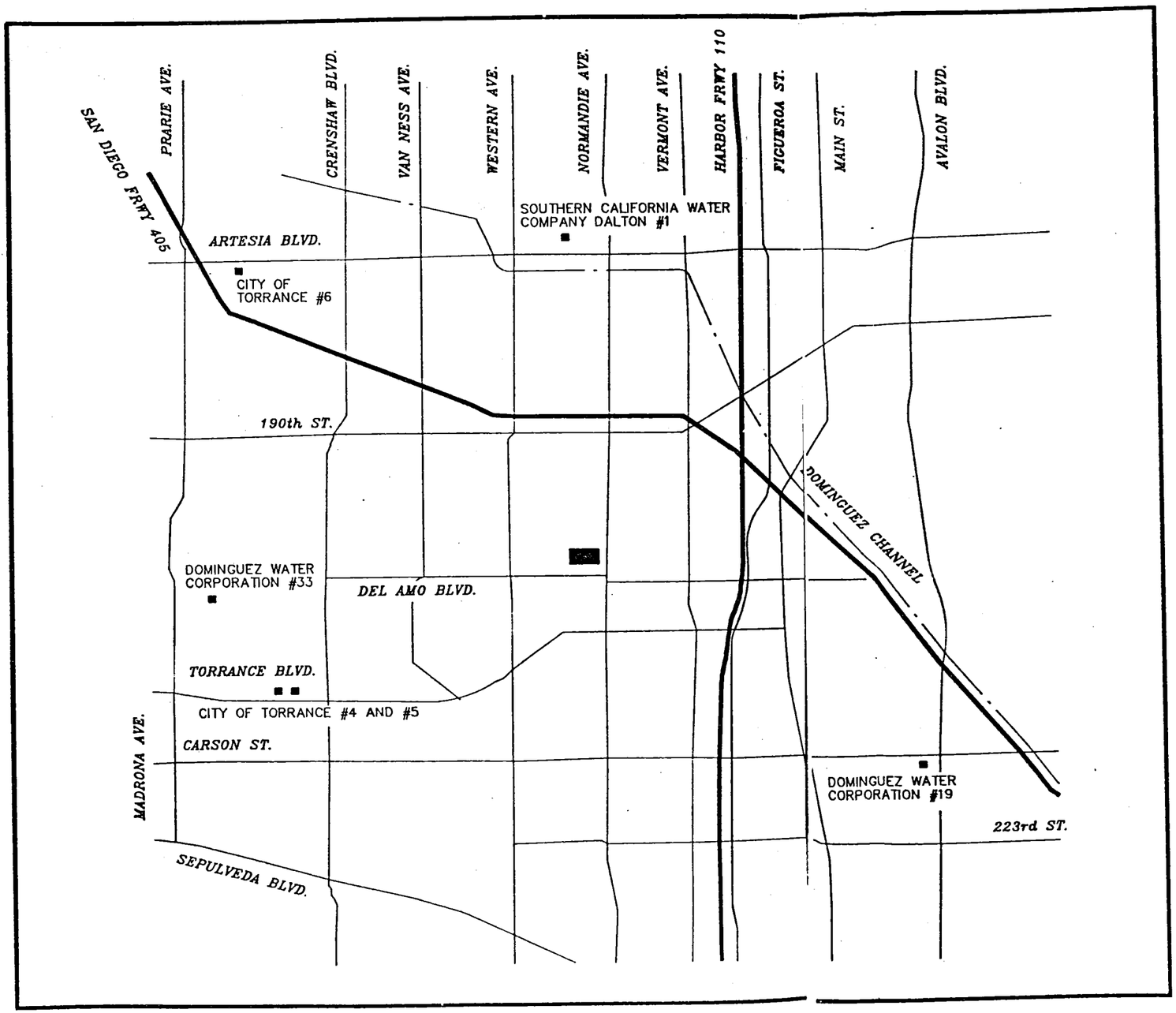
HARGIS + ASSOCIATES, INC.

DWR, 1989

FIGURE 13

PREPARED BY _____ REVIEWED BY _____ DOC No.

BOE-C6-0185410



EXPLANATION

MONTROSE PROPERTY

PUBLIC WATER SUPPLY WELLS

DRAFT

SEE TABLE 2 FOR DATA PERTAINING TO PUBLIC WATER SUPPLY WELLS.

0 3,000 6,000
FEET

MONTROSE SITE
LOS ANGELES, CALIFORNIA

PUBLIC WATER SUPPLY WELLS, SITE VICINITY

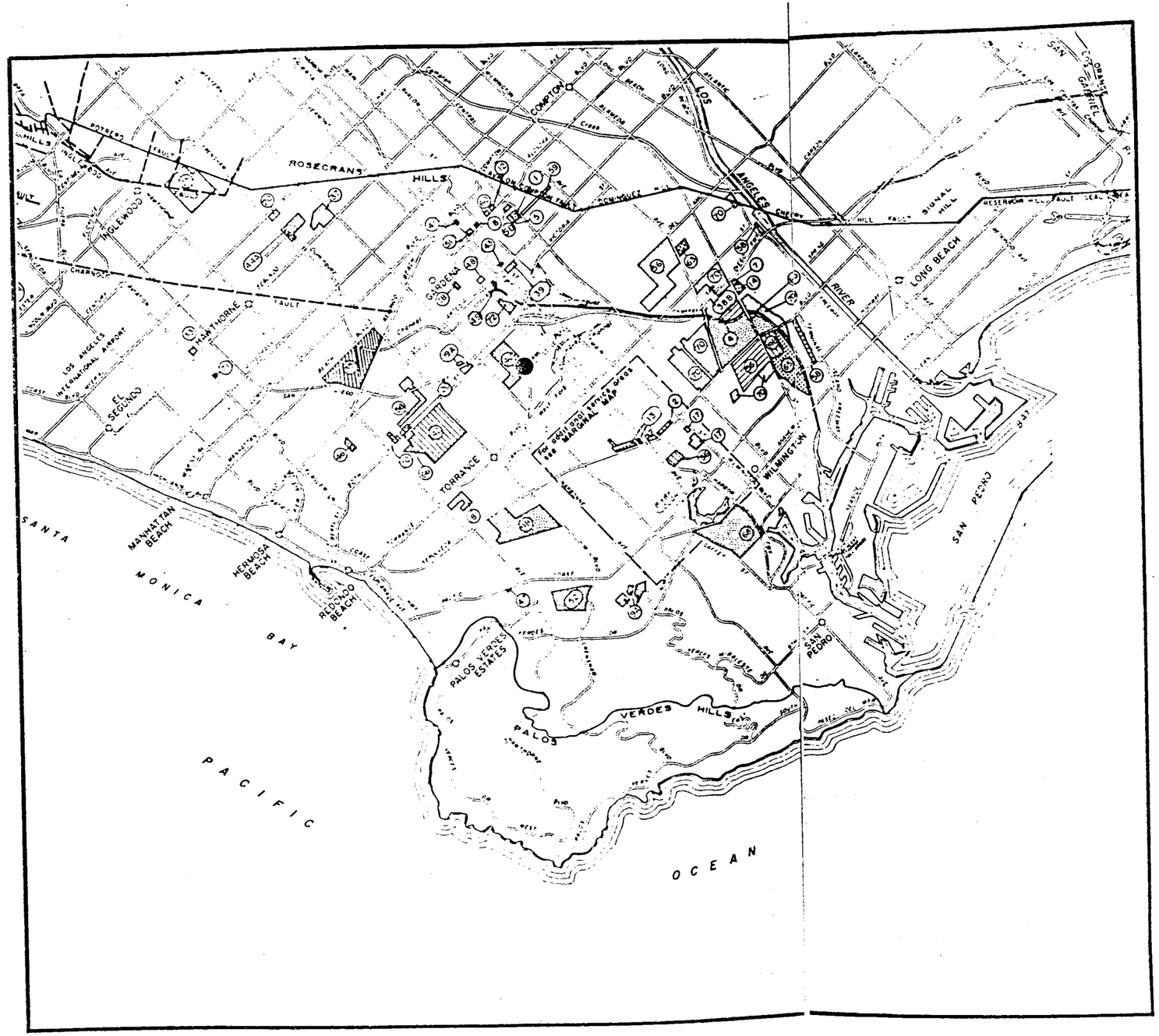
HARGIS + ASSOCIATES, INC

2/90

FIGURE 14

PREPARED BY _____ REVIEWED BY _____ 218\PUBWELLS

BOE-C6-0185411



EXPLANATION

● MONTROSE PROPERTY

DRAFT

NOTE: SEE TABLE 3 FOR A LIST OF INDIVIDUAL WATER PRODUCERS IN THE SITE VICINITY

SOURCE: STATE OF CALIFORNIA, DEPARTMENT OF WATER RESOURCES, 1989

0 2 4
MILES

MONTROSE SITE
LOS ANGELES, CALIFORNIA

INDIVIDUAL WATER PRODUCERS SITE VICINITY

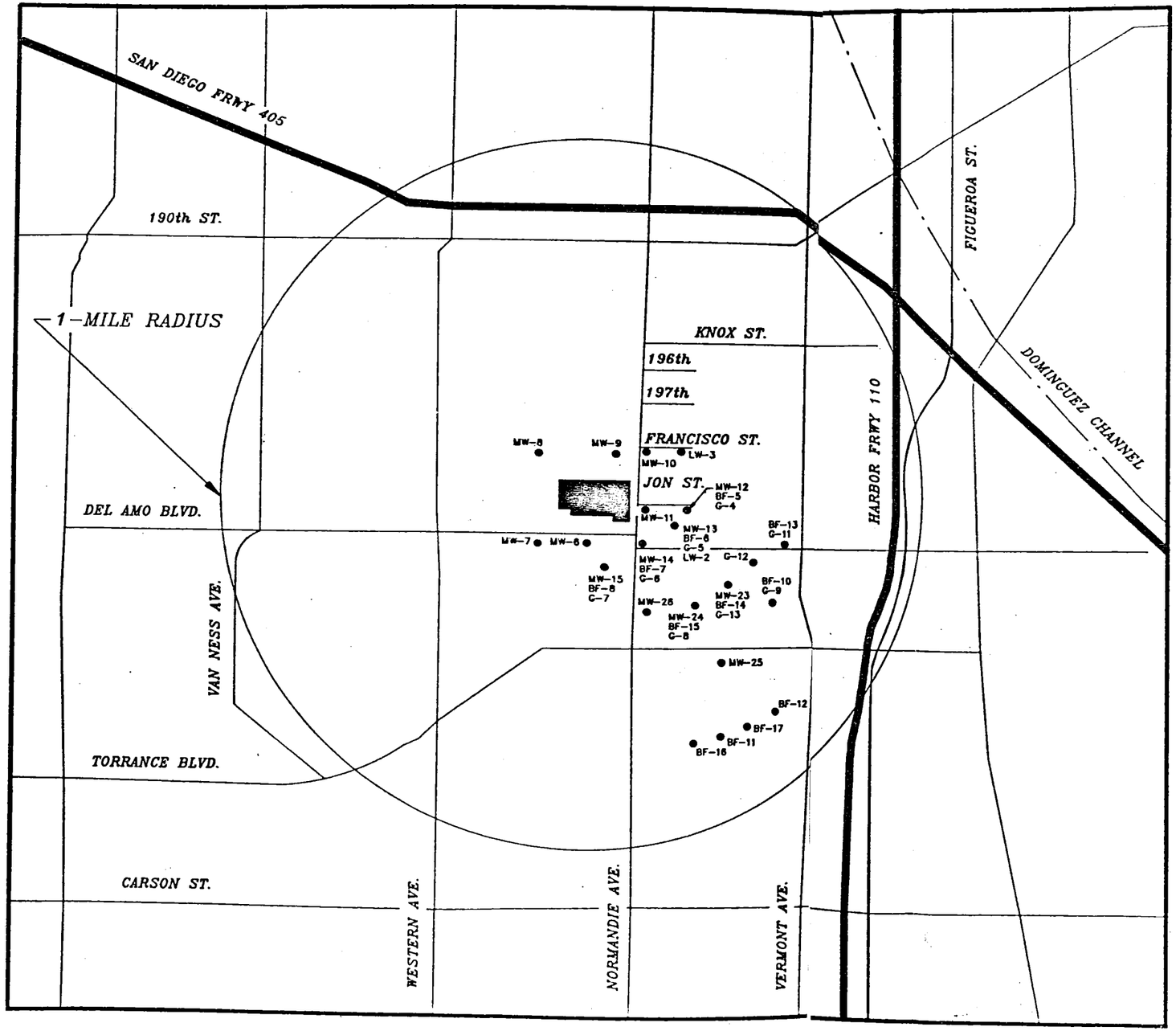
DWR, 1989

HARGIS + ASSOCIATES, INC.

FIGURE 15

PREPARED BY _____ REVIEWED BY _____

BOE-C6-0185412



EXPLANATION

MONTROSE PROPERTY

ON-PROPERTY MONITOR WELLS (NOT SHOWN):

MW-1	BF-1	C-1	LW-1
MW-2	BF-2	C-2	UBT-1
MW-3	BF-3	C-3	UBT-2
MW-4	BF-4	LC-1	UBT-3
MW-5	BF-9	LC-2	

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MONITOR WELL IDENTIFIERS:

MW-1	UPPER BELLFLOWER AQUITARD
UBT-1	UPPER BELLFLOWER AQUITARD TEST WELL
BF-1	BELLFLOWER SAND
C-1	CAGE AQUIFER
LC-1	LOWER CAGE AQUIFER
LW-1	LYNWOOD AQUIFER

● MW-25 APPROXIMATE MONITOR WELL LOCATION

SEE TABLE 5 FOR STATIC WATER LEVELS

0 1,500 3,000

FEET

MONTROSE SITE
LOS ANGELES, CALIFORNIA

MONTROSE
PROJECT MONITOR WELLS

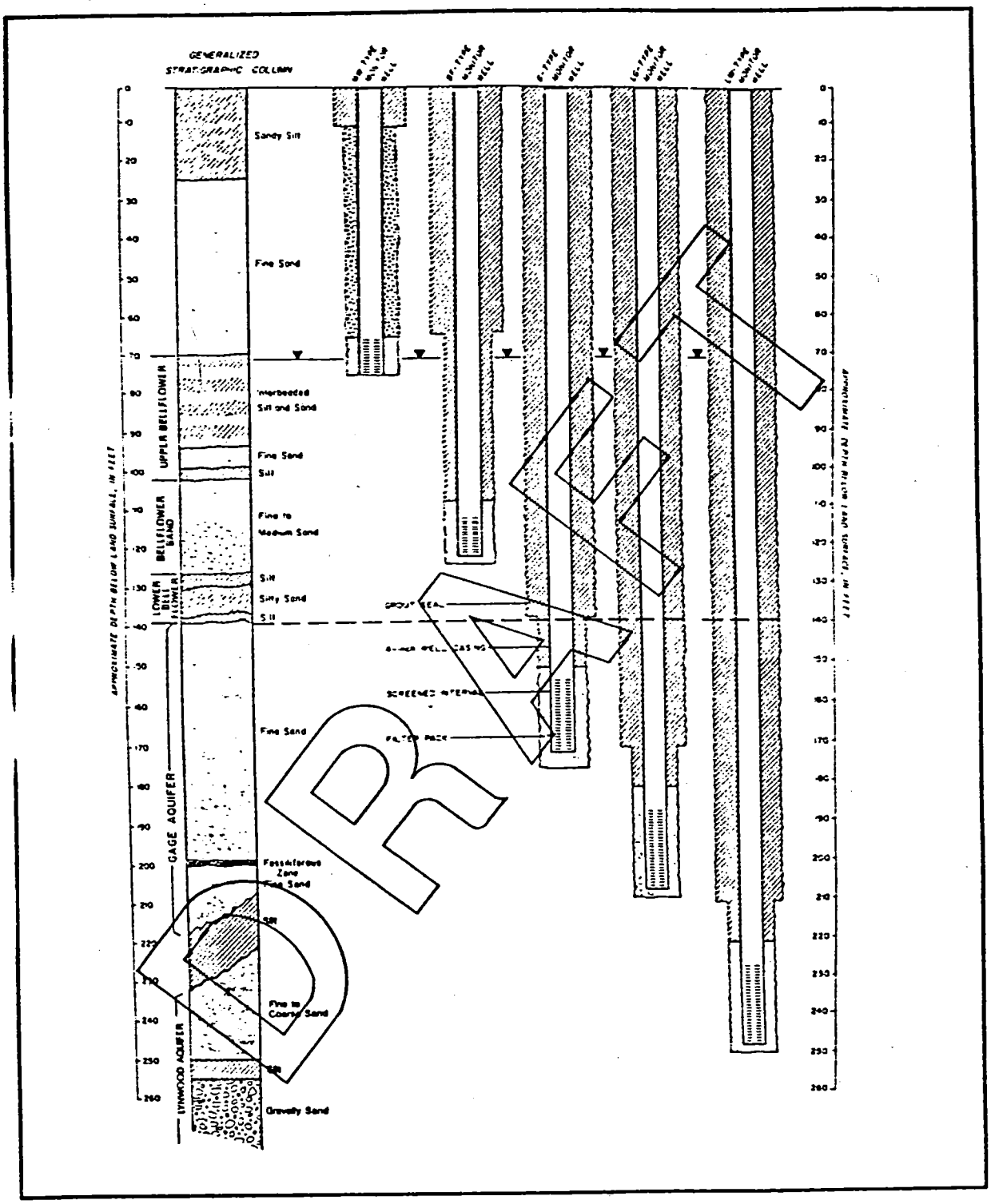
HARGIS + ASSOCIATES, INC 2/90

FIGURE 16

PREPARED BY _____ REVIEWED BY _____ 218\MW1M

BOE-C6-0185413

4824

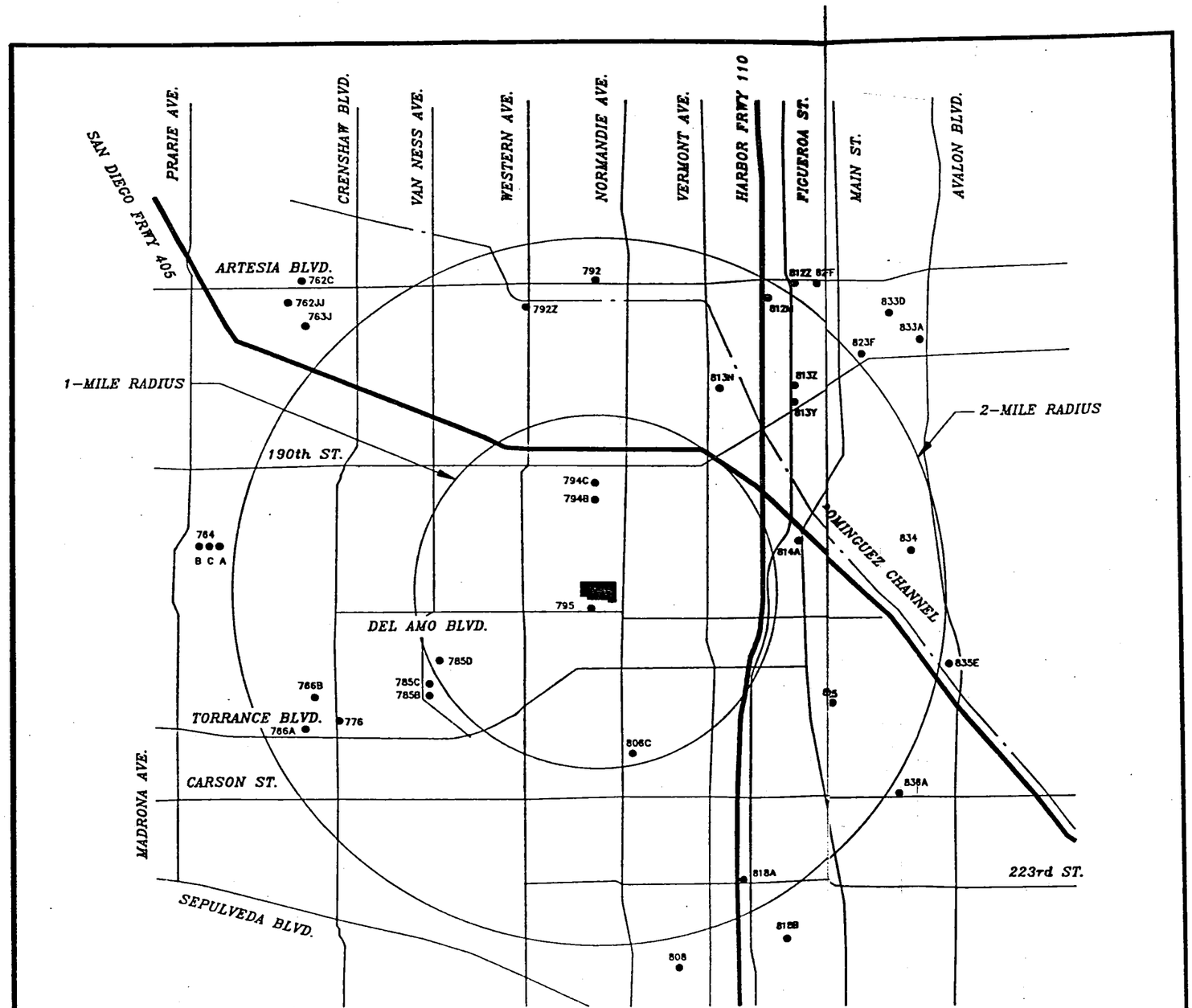


DOC No.

FIGURE 17. SCHEMATIC WELL CONSTRUCTION,
MONTROSE PROJECT MONITOR WELLS

HARGIS · ASSOCIATES

BOE-C6-0185414



EXPLANATION

MONTROSE PROPERTY

8188 ACTIVELY MONITORED WELL LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

NOTE: WELLS SHOWN ARE MONITORED FOR WATER LEVELS OR WATER QUALITY OR BOTH

SEE TABLE 6 FOR LIST OF ACTIVE WELLS MONITORED FOR WATER QUALITY WITHIN A 2-MILE RADIUS OF MONTROSE PROPERTY.

WELL NUMBERING SYSTEM USED BY LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS (LACDPW). FORMERLY LOS ANGELES COUNTY FLOOD CONTROL DISTRICT.

DRAFT

0 3,000 6,000
FEET

MONTROSE SITE
LOS ANGELES, CALIFORNIA

WELLS MONITORED WITHIN 2-MILE RADIUS OF MONTROSE PROPERTY

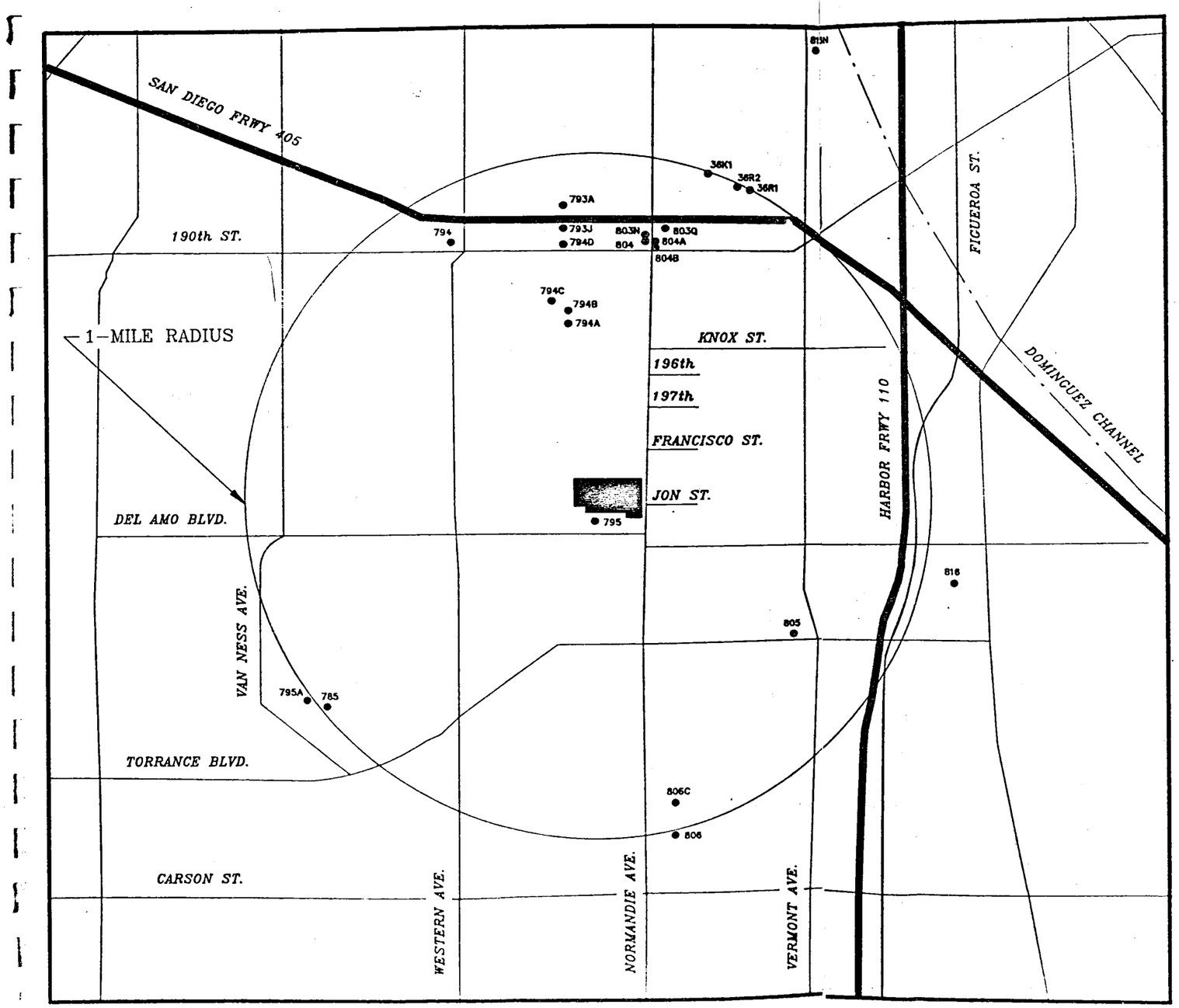
HARGIS & ASSOCIATES, INC. 2/90

FIGURE 18

PREPARED BY ____ REVIEWED BY ____ 218\ACWELS

4826

BOE-C6-0185415



EXPLANATION

MONTROSE PROPERTY

806C WELL

DRAFT

SEE TABLE 7 FOR DATA PERTAINING TO ACTIVE AND INACTIVE WELLS WITHIN 1-MILE RADIUS OF MONTROSE PROPERTY.

WELL NUMBERING SYSTEM USED BY
LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS (LACDPW), FORMERLY
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT.

0 1,500 3,000
FEET

MONTROSE SITE
LOS ANGELES, CALIFORNIA

ACTIVE AND INACTIVE WELLS
WITHIN 1-MILE RADIUS
OF MONTROSE PROPERTY

2/90

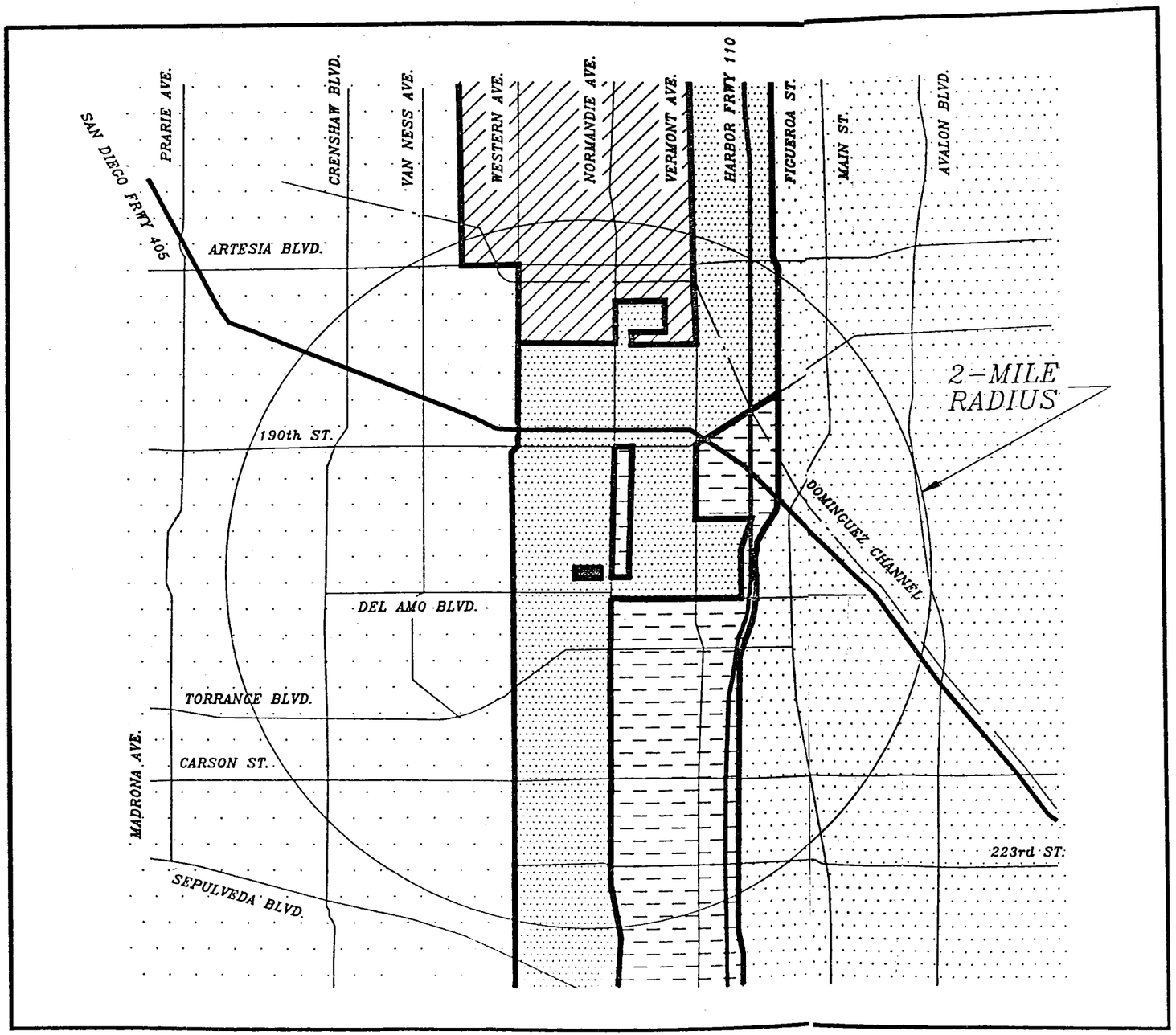
HARGIS + ASSOCIATES, INC

FIGURE 19

PREPARED BY ____ REVIEWED BY ____ 218\15A\MLS

4828

BOE-C6-0185416



EXPLANATION

- MONTROSE PROPERTY
- CITY OF CARSON
- CITY OF GARDENA
- CITY OF LOS ANGELES
- LOS ANGELES COUNTY
- CITY OF TORRANCE

DRAFT

N

0 3,000 6,000

FEET

MONTROSE SITE
LOS ANGELES, CALIFORNIA

MUNICIPAL JURISDICTIONS IN THE SITE VICINITY

HARGIS + ASSOCIATES, INC

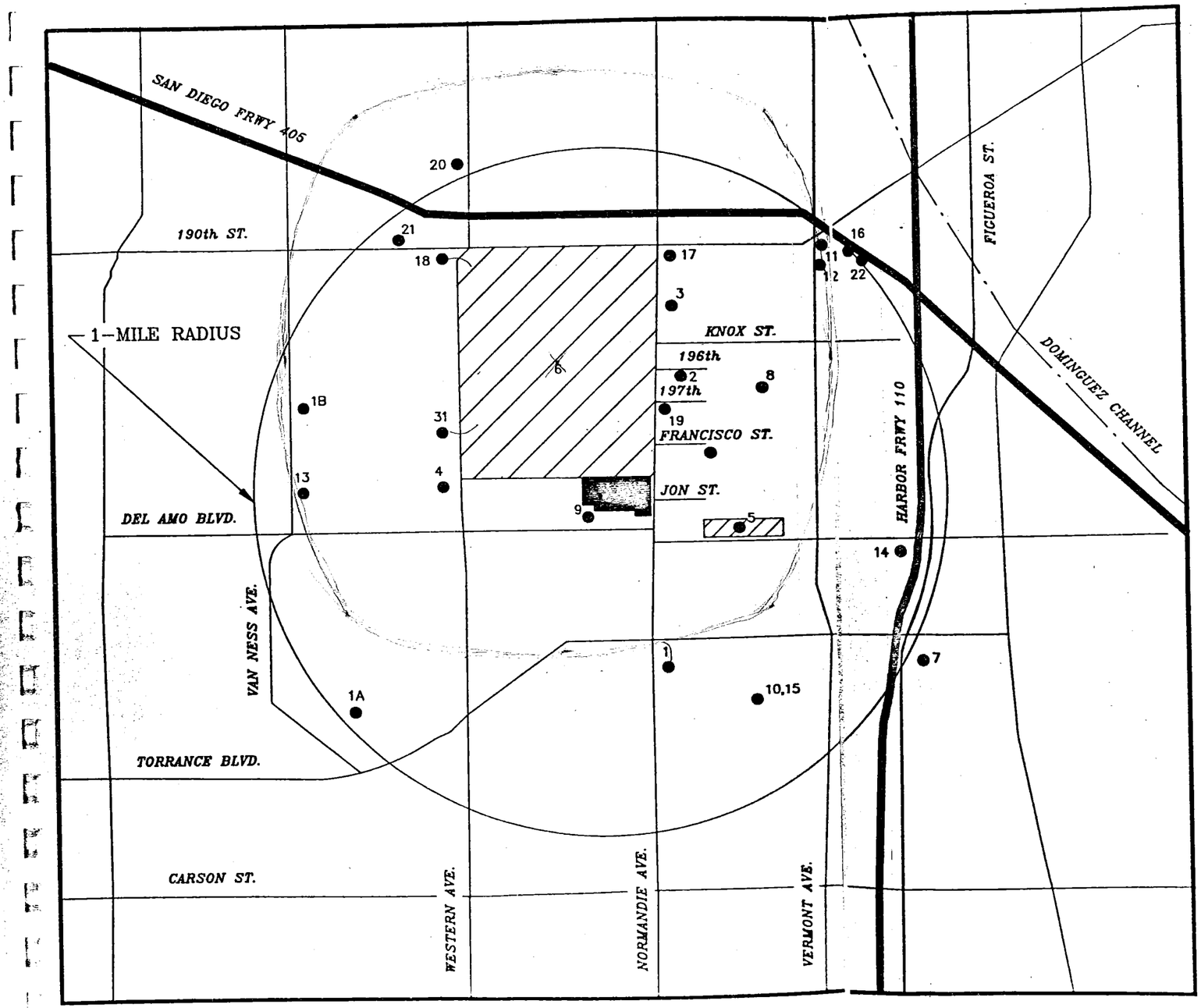
2/90

FIGURE 20

PREPARED BY _____ REVIEWED BY _____ 218/JURIS

4830

BOE-C6-0185417



EXPLANATION

MONTROSE PROPERTY

1A APPROXIMATE LOCATION OF SITE

1 AKZO COATING AMERICA
1A PACIFIC BRONZE/NEODANE CO.
1B GARRET AIRESEARCH
2 AMOCO CHEMICALS
3 CADILLAC FAIRVIEW
4 CARSON ESTATES
5 DEL AMO HAZARDOUS WASTE SITE
6 DOUGLAS AIRCRAFT C6 FACILITY
7 GOLDEN EAGLE REFINERY
8 INTERWEB/R.R. DONNELLEY & SONS
9 JONES CHEMICAL
10 LAWSON ENTERPRISE
11 MARUISO KAISAN USA
12 TELEDYNE SPRAGUE ENGINEERING
13 MOBIL STATION
14 ROLLINS LEASING
15 ROYAL BLVD CLASS III DISPOSAL SITE
16 RUBBER TECK
17 TEXACO STATION
18 TOYOTA MOTOR SALES
19 TRICO INDUSTRIES
20 UNOCAL STATION 5131
21 UNOCAL STATION 6075
22 WESTERN CONCRETE
31 CAPITOL METAL PROCESSING

SEE TABLE 9 FOR LIST OF SITES LISTED WITH PUBLIC AGENCIES WITHIN 1-MILE RADIUS OF MONTROSE PROPERTY.

0 1,500 3,000
FEET

MONTROSE SITE
LOS ANGELES, CALIFORNIA

SITES WITHIN 1-MILE RADIUS OF MONTROSE PROPERTY LISTED WITH AGENCIES

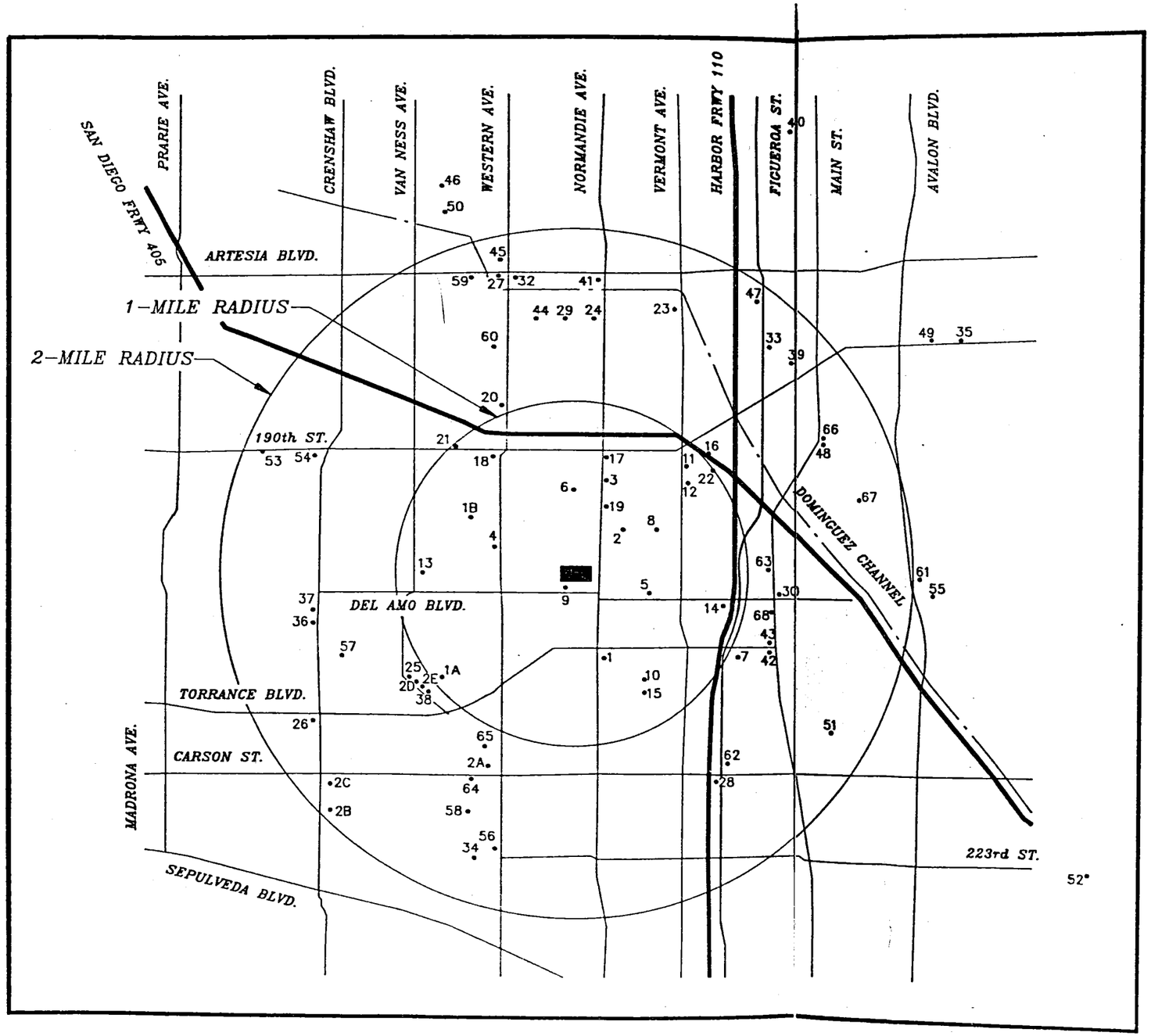
2/90

HARGIS + ASSOCIATES, INC.

FIGURE 21

PREPARED BY _____ REVIEWED BY _____ 218/GWTM

BOE-C6-0185418



EXPLANATION

MONTROSE PROPERTY

51 APPROXIMATE LOCATION OF SITE

DRAFT

SEE TABLE 10 FOR DATA PERTAINING TO SITES

0 3,000 6,000

FEET

MONTROSE SITE

LOS ANGELES, CALIFORNIA

SITES WITHIN 2-MILE RADIUS OF MONTROSE PROPERTY LISTED WITH AGENCIES

2/90

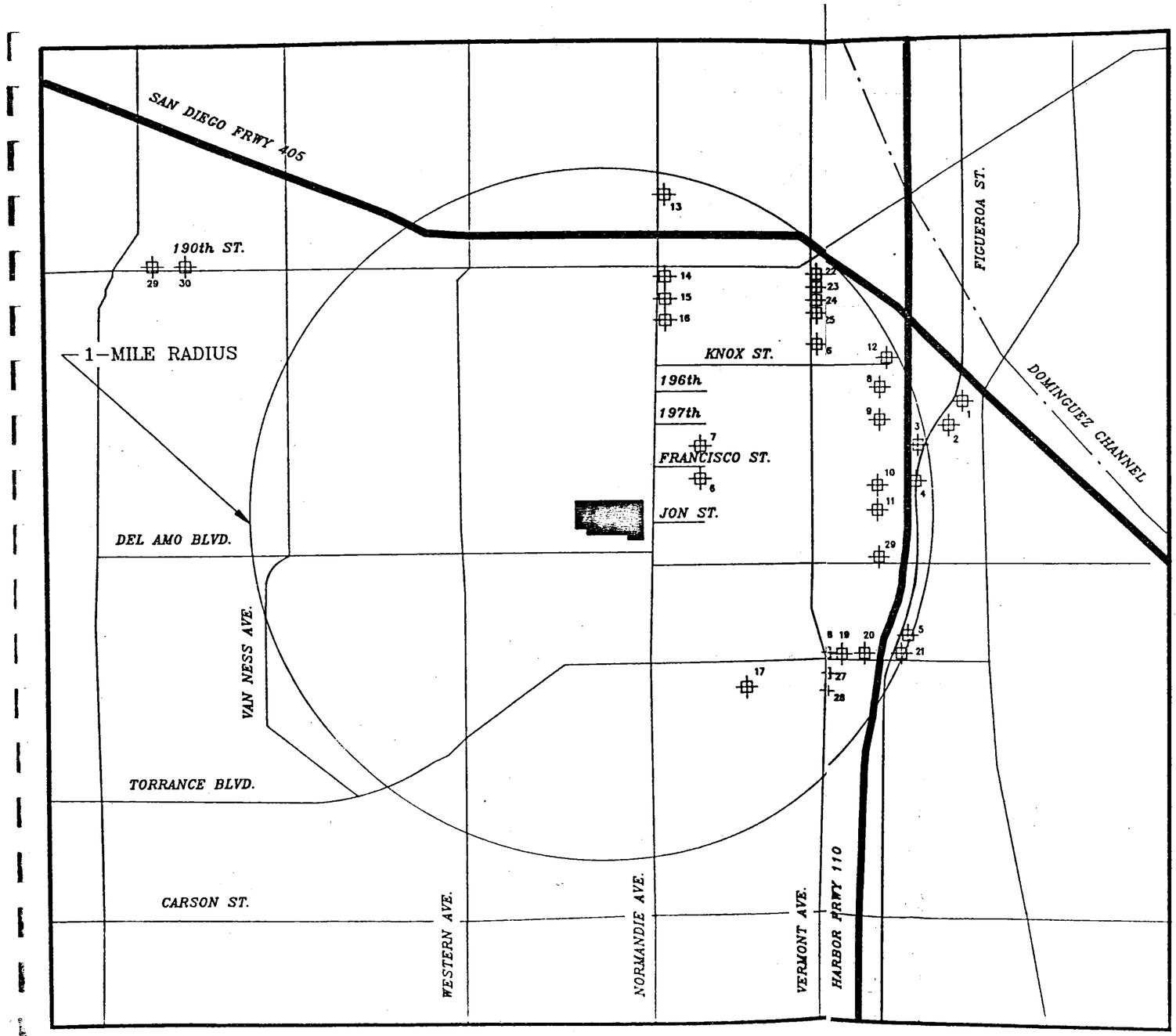
HARGIS + ASSOCIATES, INC.

FIGURE 22

PREPARED BY _____ REVIEWED BY _____ 218\GW2M

4837

BOE-C6-0185419



EXPLANATION

MONTROSE PROPERTY

UNDERGROUND STORAGE TANK

SEE TABLE 13 FOR LIST OF UNERGROUND STORAGE TANKS WITHIN 1-MILE RADIUS OF MONTROSE.

DRAFT

0 1,500 3,000

FEET

MONTROSE SITE
LOS ANGELES, CALIFORNIA

PERMITTED UNDERGROUND STORAGE TANKS, LACDPW

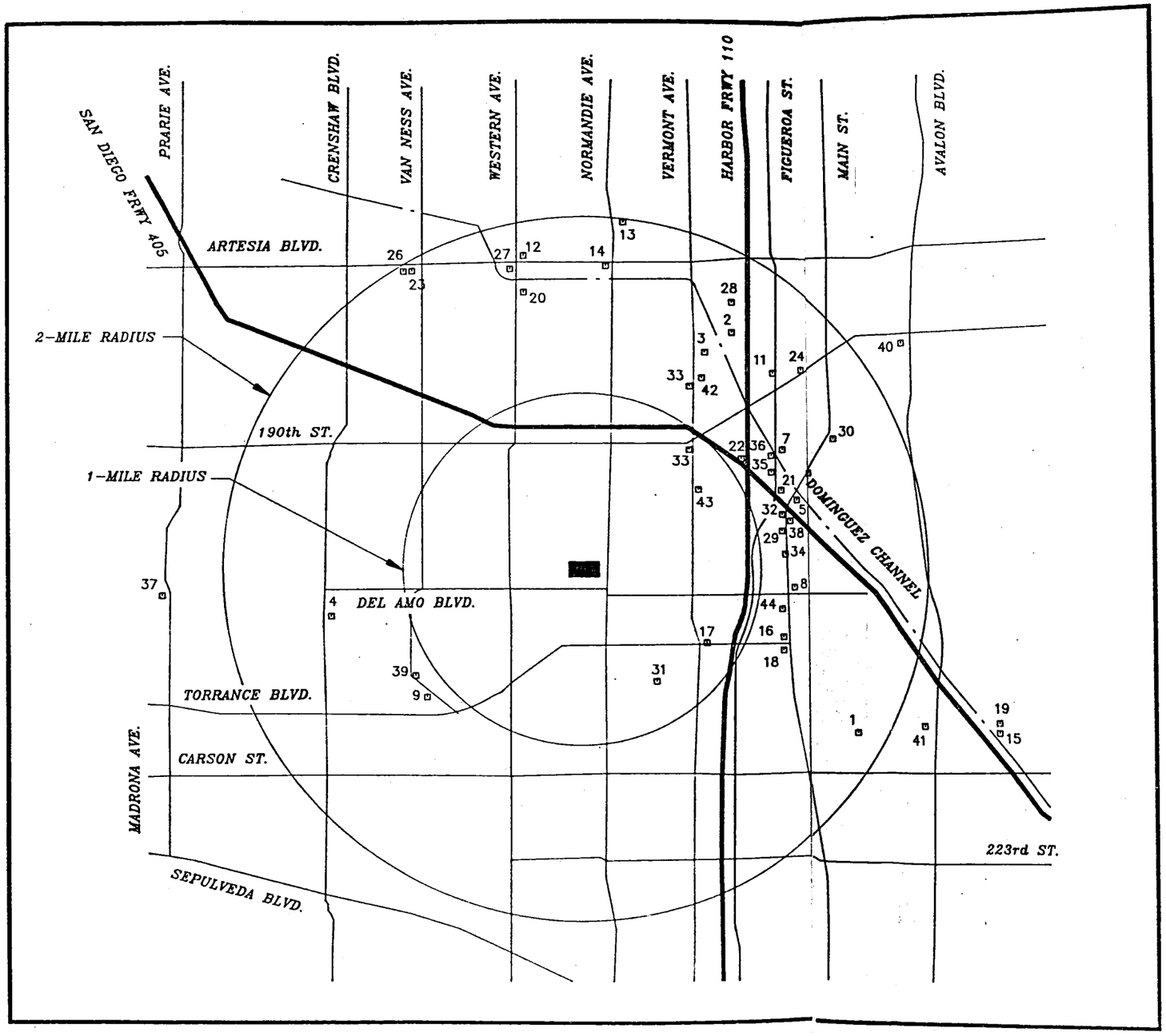
HARGIS + ASSOCIATES, INC

2/90

FIGURE 23

PREPARED BY _____ REVIEWED BY _____ 218\UGRTK

BOE-C6-0185420



EXPLANATION

MONTROSE PROPERTY

LANDFILL

SEE TABLE 12 FOR DATE PERTAINING TO LANDFILLS IN THE SITE VICINITY.

DRAFT

0 3,000 6,000

FEET

MONTROSE SITE
LOS ANGELES, CALIFORNIA

LANDFILLS IN THE SITE VICINITY

2/90

HARGIS + ASSOCIATES, INC.

FIGURE 24

PREPARED BY _____ REVIEWED BY _____ 218\LDFL

BOE-C6-0185421